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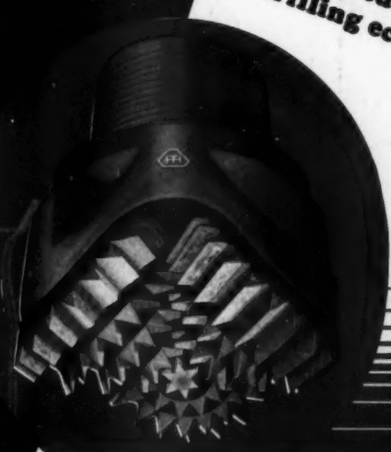

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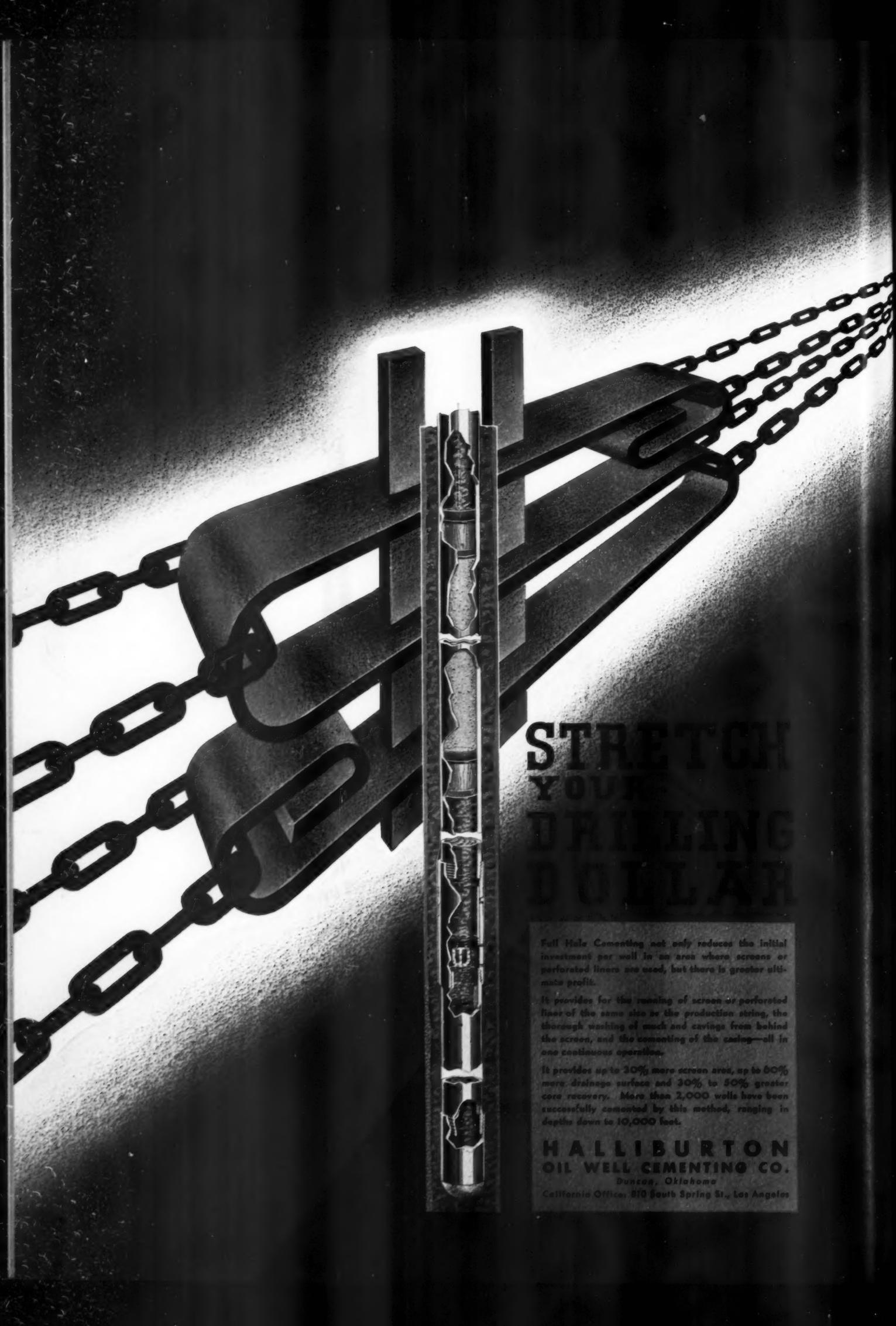

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TABLE OF CONTENTS

News Developments

Summary of Situation 11
Sparks From the News 12
Louisiana Not to Run Wild, Governor-Elect Says—By C. O. WILLSON 13
Examiner Reports on Pipe Line Probe to Interstate Commerce Commission—By HUGH D. MALLON. 14
Southern Oklahoma Interest Revived by Ordovician Well in Fox Field—By L. G. E. BIGNELL 15
Risk of Rodessa Straightrun and Alky-Gas W.P.R.A. Topic 16
Optimism in Presidential Address Before Western Refiners—By C. M. BOGGS 17
Flurry Over Rodessa Allowable Not Finally Settled.. 18
Handling Drilling Mud, Water and Gas Create Problems at Oklahoma City—By L. G. E. BIGNELL .. 19
No Need to Fear Flood of Panhandle Gasoline Following Court Decision—By W. T. ZIEGENHAIN .. 21
Crude Runs to Stills Increased in April by Mid-Continent Refiners—By D. H. STORMONT 23
News From Foreign Lands 28
Editorial 30

Engineering—Operating

Ardmore District Has Great Prospects for Future Oil Development—By C. W. TOMLINSON 32
Chemical Processes in Refining of Petroleum Distillates—By JACQUE C. MORRELL and GUSTAV EGLOFF 36
Operating Ideas 43
Equipment for Accurately Measuring Viscosity in Fundamental Units—By M. R. CANNON and M. R. FENSKE 45
New Groups Aid Advancement of Industrial Welding 50
Technical Questions—By C. K. FRANCIS, Ph.D.... 51
Problems From Readers—By T. F. SMILEY..... 52

Markets and Prices

Group 3 Market—By T. F. SMILEY..... 88
New York Market 89
A.P.I. Refinery Report 89
Tank-wagon Markets 90
Refinery Prices 91
Crude Prices 92

Field Operations

Gulf Coast—By F. L. SINGLETON 53-55
Canada—By VICTOR LAURISTON 54
Michigan—By PAUL A. ELLIOTT 56
Eastern Fields—By STAFF CORRESPONDENT..... 57
California—By L. P. STOCKMAN 58
East Texas—By L. E. BREDBERG 61
Central West 61
West and North Texas—By L. E. BREDBERG..... 62
Kansas—By DAL DALRYMPLE 65
N. Louisiana-Arkansas—By J. R. CRUMPTON 68
Rocky Mountain Area—By TOLBERT R. INGRAM.. 69
Oklahoma—By DAL DALRYMPLE 73
Southwest Texas—By GEORGE WEBER 76
Wildcat Operations ..... 77 to 84

Additional Features

Crude Oil Stocks 16
Obituaries 20
Pipe Line Activity 24
Refinery Progress 24
Natural Gas News 25
Natural Gasoline 25
Hearing on Natural Gas Bill 25
Oil Securities 85
Personal Paragraphs 86-87
Do You Remember? 86
New or Improved Equipment 93
Classified Advertising 94-95
Oil Man's Calendar 96
Index to Advertisers 96

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Rodessa Field Is Causing Nervousness

UNEASINESS concerning Rodessa is likely to persist following the inconclusive action of Louisiana officials in the case of one company which temporarily was permitted to produce crude in excess of allowables generally in effect. Uncertainties gather about "market demand," a vague and flexible feature of the state's law, and further controversies are expected to arise. Fears in some quarters that certain phases of East Texas oil history may be repeated in Rodessa became more pronounced with the announcement of the governor-elect that he does not at present favor Louisiana's entrance into an interstate oil compact, though he declares the field will not be allowed to run wild. While no immediate threat to market stabilization is seen, there will be misgivings until some of the present potentialities for trouble are removed.

Emergence of various areas from recent flooded conditions which impeded motor travel is accompanied by brisker demand for gasoline, and refiners are looking forward to rapid development of the spring pickup in consumption.

The most interesting well of the week was the Carter Oil Company and others' No. 1 Ruth Williams, in the Fox pool, Carter County, Oklahoma, recompleted at a total depth of 8,105 feet, where it made 3,020 barrels of oil in 18½ hours, accompanied by gas flowing at the rate of about 20,000,000 feet daily. The well is assumed to have been completed in the dense limestone of the lower McLish formation of Ordovician age.

A new record for Michigan was made by the Commercial Oil and Gas Company when it completed a gas well in Belvidere Township, Montcalm County, rated at 54,000,000 feet daily. It tops by several million feet the state's former biggest gasser. Both crude production and the number of wells drilling were mounting to new highs in Michigan.

Production 2,884,648
Decrease 12,016

Discovery of a new oil field in Santa Barbara County, California, was confirmed by a wildcat drilled by the Union Oil Company. The test blew in barefoot, flowing 3,750 barrels daily from 2,576 feet.

Southwestern Oklahoma's largest oil well to date was brought in by the Gulf Oil Corporation in the Humphreys area of Jackson County, flowing 730 barrels in three and one-half hours before being shut in. The state of Oklahoma was preparing to drill at least five wells on state-owned land in the Oklahoma City area.

The producing limits of the Anahuac field in the northern part of Chambers County, Texas, were defined on the eastern side by a well of the Humble Oil and Refining Company, which cored a salt water sand at 7,211 feet.

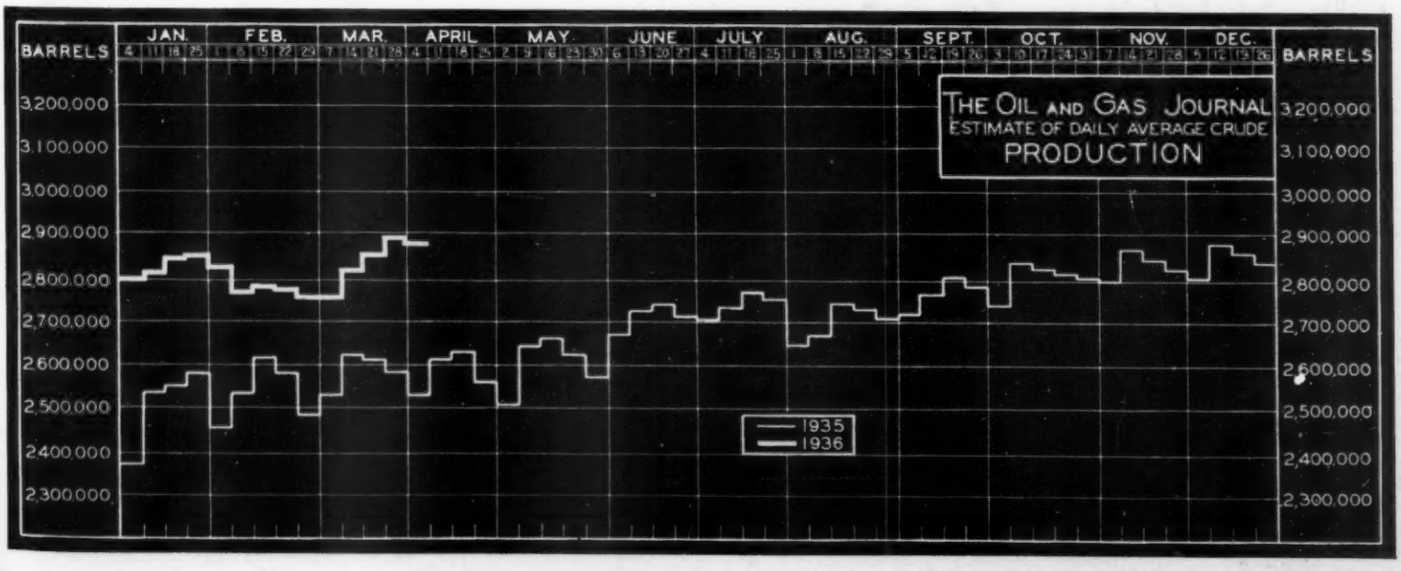
Daily Average Production for Week

	April 4 1936	March 28 1936	April 6 1935
Oklahoma City	150,500	158,350	122,450
Seminole-St. Louis	95,625	99,300	85,220
Remainder of State	281,275	288,375	265,655
Total Oklahoma	527,400	546,025	473,325
East Texas	456,752	458,654	463,747
West Texas	177,198	176,063	146,021
North Central Texas	83,150	82,570	90,253
Texas Panhandle	60,648	63,126	61,895
East Central Texas	48,097	49,897	51,304
Gulf Coast Texas	236,196	229,088	180,287
Southwest Texas	74,853	74,012	60,930
Total State of Texas	1,136,894	1,133,410	1,054,437
North Louisiana	71,995	65,460	23,045
Gulf Coast-Louisiana	140,450	137,650	96,833
Total Louisiana	212,445	203,110	119,878
Santa Fe Springs	42,900	43,100	37,500
Long Beach	67,900	68,150	63,500
Mountain View	26,500	26,850	9,750
Kettleman Hills	75,750	77,000	68,400
Remainder of State	348,700	349,650	300,850
Total California	561,750	564,750	480,000
Kansas	151,775	159,625	144,950
Arkansas	29,930	29,695	30,585
Eastern Fields	108,000	108,500	107,250
Michigan	38,974	37,759	37,189
Rocky Mountain Area	117,480	113,790	98,140
Total United States	2,884,648	2,896,664	2,545,754

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending March 28, 1936	311,169,000
Week ending March 21, 1936	310,350,000
Week ending March 30, 1935	341,243,000



SPARKS FROM THE NEWS

Doubt

Public confidence in Louisiana's conservation law sprung a leak. Looks as though a water proofing job is needed.

Amplification

Oil industry is glad to hear fears of effects of the floods on consumption were exaggerated. Fears and hopes generally are.

Tangle

Austin three-judge federal court decision was severe blow for Texas gas conservation law. Invalidation of Railroad Commission's order enforcing ratable taking provision of law thoroughly scrambles the situation.

Extinguisher

More kerosene is being consumed in this country than any previous time. What will happen if the government's rural electrification program is carried out throughout the country.

Purchase

Motor vehicle owners pay about $1,500,000,000 a year for roads, which may explain why so many think they own them.

Maverick

Third grade gasoline carries no octane specification. It can be anything, so can the price, and good gasoline suffers.

Gauge

Automobile designers are working on 1938 models with radical changes. Refiners are watching radiators as guide to volatility specifications.

Scarecrow

No need to get excited over experimental alcohol plant. Oil is cheaper than corn as farmers want it to be.

Gravitation

Bus companies can now buy gasoline in one state and drive over the roads of its neighbors without worry. That should place business where the tax is lowest.

Laugh

Sounds funny, East Texas refiner going to Rodessa for crude. Cannot Texas fields supply the actual demand without reducing their ultimate recovery?

'Tenshun!

When Commander-in-Chief Marland's troops get tired drilling they can start drilling.

Beacon

Reports of progress on the marketing code of ethics continue. The Sugar Institute decision encourages hope for official approval.

Disappointment

Latest pipe line investigation did not prove exactly what prober asked. Not unusual.

Thinker

Secretary Ickes is reported considering curtailment of Louisiana production. What of it?

Showing

Lest it be overlooked, considerable quantity of crude is being discovered.

Soviet's first woman petroleum engineer giving orders to drilling crew. Maria Pogubekova, graduate of Grozny Oil Institute, has drilled two producers.

Louisiana Not to Run Wild, Rules Governor-Elect

By C. O. WILLSON

NEW ORLEANS, La., Apr. 6.—"You can rest assured that we will not let this state run wild in the matter of crude oil production. We will do anything necessary to bring about an orderly development of our most important natural resource on a basis that will be fair both to the state and the capital invested in the oil and gas industries."

Thus did Judge Richard W. Leche, governor-elect of Louisiana, summarize the position of his administration which takes office May 12. It is his answer to those who view the increasing production of the state as a future threat to the stability of oil markets not only in Louisiana but the oil industry generally.

In an exclusive interview, during which Louisiana's position in the domestic crude oil situation was freely discussed, the governor-elect frankly stated he did not believe at this time that it was to the best interests of the state to join the Interstate Compact as has been suggested by members of that body and many oil operators. He explained in this connection that he did not profess to have a detailed knowledge of the workings of the oil business and did not care to pass finally on certain pending matters, of which the Interstate Compact is one, until they came to his attention as governor.

Optimistic on Louisiana Oil

The future governor, who was formerly secretary of the late Governor Allen and a trusted political ally of Huey Long, does have definite ideas as to what should be the general policies in regard to oil development within the state. It seems reasonable to conclude that these principles will be the basis for any recommendations that he may make to the state legislature which meets in regular session next month.

He feels that the oil and gas possibilities of the state have only been touched and is confident that future development is certain to overshadow anything that has taken place in the past. He visions the time, for example, when this city will become one of the important oil centers of the country due to the development now under way in the coastal areas. He points to new discoveries in this and other sections of the state as entitling Louisiana to a substantially larger share of the country's crude markets than it has had in the past.

This is one of the reasons that he questions the desirability of entering an Interstate Compact. He fears that if the state became a party to the compact it might result in "freezing" of Louisiana's position as a supplier of crude, with the bulk of the market continuing to go to states which have developed their oil resources more quickly than Louisiana has. He is in sympathy with many of the objectives of the oil compact and is strongly opposed to any extension of federal control.

The young executive, who will be governor of the state for a four-year term, is fully aware that crude oil production in excess of requirements, regardless of where it comes from, will endanger the present stability of the industry. He does not want a distressed oil business in Louisiana with producers curtailing their operations due to unprofitable operations.

"We cannot get ours unless they get theirs" was his blunt observation in connection with this viewpoint that oil operators should be rewarded adequately for developing the present and future oil reserves of the state. He senses the fact that some oil operators in recent years have been hesitant about entering the state and others have restricted their operations due to uncertainty regarding the attitude of the state government at Baton Rouge He is anxious that this feeling be dissipated and oil operators realize that his administration is anxious to cooperate with them in line with the conservation laws of the state.

In regard to taxes, Judge Leche said that some reduction in the present severance taxes on crude oil might be possible as revenue increased with the enlarged production of new fields. The present taxes range from 4 to 11 cents per barrel, depending on gravity and regardless of prices received by the producers at the wells. A large part of the present production comes within the highest brackets, which means that operators pay substantially higher production taxes than in any other oil state. The tax on Rodessa crude oil in North Louisiana carries the top rate of 11 cents.

"We cannot get ours unless they get theirs"

"While some reduction in crude oil taxes may be brought about as the state's production increases," Judge Leche said, "I do not feel the same way about natural gas, which is another major resource of the state. Our present state tax is one-fifth cent per thousand cubic feet. I pay 90 cents a thousand for the same gas in New Orleans. Surely between the 90 cents and the low price paid the producers there should be more than one-fifth cent available to the state."

While no comment was available from Judge Leche, it is generally believed in the state that Robert S. Maestri, of this city, for several years commissioner of the Department of Conservation and the most important state figure in oil administration during the Long, Allen and Noe regimes, will shortly retire to become mayor of New Orleans. The state position is appointive by the governor, which will mean that one of the first duties of the new governor will be to appoint a new commissioner. This is an important position under the conservation laws of the state and of particular importance to the oil industry at this time due to the fact that enforcement of necessary regulation will center around that office.

No change has been indicated in the position of director of the Minerals Division of the Department of Conservation. This position has been held for several years by Dr. J. A. Shaw, who is widely known among oil operators of the state.

Representative views obtained from oil operators and state officials familiar with conditions in the state in most cases support the position taken by the incoming governor. The view is general that the state now has under way a permanent comeback as a major producer of crude oil. While attention at this time is generally focused on Rodessa, the development in the Louisiana coastal area of the past year, with several new pools discovered, is of equal importance. Those in a position to be informed are certain that many more salt domes and structural pools will be found in the southern part of the state.

In regard to the coastal area, it is contended

that it is unfair to suggest a production basis comparable to that applying to many fields in Texas and other states. A large part of the Louisiana Gulf's exploration and development work has been carried on in open water or in marshy and swampy areas. These "marine operations" have been costly with some fields not profitable until the recent advances in crude prices materialized. Producing depths involve special drilling and operating problems and the producing areas are relatively small.

These conditions are the basis for the contention that the allowable production per well should not be predicated on allowables in other areas where operating conditions are different. Several of the newer pools are located on state-owned lands and it is expected that future development will tend to emphasize this situation in which the government not only collects taxes on crude oil production but has a direct interest through bonuses and royalties. The state is aiding in reclaiming some of its land which is considered promising from the standpoint of oil development.

Operators in this section and at Shreveport were asked as to the probable production of the state by early summer and the usual prediction was around 250,000 bbls. daily. This is 50,000 bbls. more than the allowable for April under the proration order announced by the commissioner of conservation this week. It is predicted that the Gulf fields will increase to around 160,000 bbls. daily, which will leave 90,000 bbls. daily for North Louisiana. This would mean a production of 70,000 bbls. for Rodessa, the other North Louisiana fields, which are on a settled basis, being given a production of 20,000 bbls. daily. Later in the year it was indicated that a larger production may be desirable to take care of the expected new production in both northern and coastal fields.

In regard to the seriousness of the present Rodessa situation, opinions of observers within the state vary as do those outside who view the Louisiana situation from a different angle. Some contend that a strict enforcement of the conservation laws of the state—with particular reference to gas wastage, which is now high—will mean that the daily production in the present proven area in Louisiana will not exceed 75,000 bbls. daily regardless of how many wells are drilled. Without restrictions the production could be much larger for a short period. In this connection it is indicated that the major operators expect to reduce wells to one to 20 or more acres outside the section where offset requirements have necessitated the drilling of many wells.

Others have little confidence in the conservation laws of the state and they feel that present and future oil discoveries will necessitate new regulations and revisions which should be obtained if possible during the coming session of the state legislature. While certain features of the Louisiana conservation acts applying to oil and gas are as conclusive as those of any other state, there are "loopholes" in other provisions, it is said. There are legal questions as to whether certain provisions of the market demand act are enforceable.

Concerns holding a large part of the proven area will welcome the enforcement of conservation regulations and a reasonable allowable production with due regard to market requirements. This includes an equitable agreement with producers in the adjoining Cass County of Texas. The danger lies, it is said, in extending special privileges to certain operators through action of the Department of Conservation. A case was cited this week in which an operator was given a permit to produce three or four times the allowable per well of other operators which was 400 bbls. in March and 350 bbls. in April. This action was later rescinded by Governor Noe after 13 wells had produced 20,000 bbls. daily for three or four days.

Should this action be repeated later, trouble is certain to develop according to those familiar with operating conditions. It might conceivably result in a general breakdown of all proration efforts in the state with a resulting flood of oil from the Rodessa field. Much will depend on the attitude of the enforcement agencies of the state, and it is due to this fact that operators are particularly interested in the actions of the new administration which will take office at a time when a comprehensive state program, fairly enforced, will be necessary.

Examiner Reports on Pipe Line Probe to Interstate Commerce Commission

By HUGH D. MALLON

WASHINGTON, D. C., Apr. 6.—Assertions that earnings of pipe line carriers are too high, and so are minimum tenders of crude oil, is the gist of the report of the Interstate Commerce Commission examiners on the question brought up in 1934 by John E. Shatford's complaint that reduced pipe line rates were detrimental to rail freight of petroleum and its products, and harmful to petroleum refiners located in the field, close to their source of supply of crude.

Mr. Shatford is president of the Ouachita Valley Refining Co., and vice president of the Transportation & Development Co., a company holding shares of numerous railroads. He is also president of the Louisiana-Arkansas Refiners Association.

The report, prepared by J. Paul Kelley, examiner of the commission, is based on the hearing devoted to the testimony of Mr. Shatford, attended by counsel and representatives of practically every respondent named. Every interstate pipe line carrier has been named a respondent.

The situation was brought about by the filing of tariffs by some companies reducing the rates of trunk line and gathering charges, Mr. Shatford maintaining this would result in disaster for the refiner in the field, while undermining the tonnage enjoyed by the railroads from the petroleum industry.

Net result of the present recommendation will be the reopening of the case to ascertain just what the effect of the reduction in rates has meant to the railroads in the past two years, as well as find out what the earnings of the pipe line companies have been since the advent of the reduced rates.

Specific recommendations in the report are that "The commission should find upon this record that the minimum tender requirements of the respondents are, and for the future will be, unreasonable to the extent that they require tenders of amounts in excess of 10,000 bbls. of crude oil as single shipments.

"The commission should reopen this proceeding for the purpose of obtaining for the record returns applicable to the years 1934 and 1935.

"The commission should require respondents to show cause why the rates charged by them should not be found to be unreasonable for the future to the extent that they may exceed 65 per cent of the rates in effect on December 31, 1933."

The reductions made effective in 1934 only in small measure alleviated or removed the unreasonable character of the rates, the examiner said, pointing out it was significant the protest was against reductions in these rates on the basis that the effect would be disaster for the industry, or in other words, that pipe line earnings were carrying losses in other branches.

One of the respondents, in answering the questionnaire, pointed out that in times past it had been expedient to balance losses sustained in refining and marketing against pipe line profits to escape confiscatory provisions of federal and state tax laws. In answer the examiner stated that "The Interstate Commerce Commission is not the custodian of the oil industry. Its function is to see that the common carriers under its jurisdiction conduct their operations in a manner conducive to the public interest and that their earnings are derived from rates, charges and practices that are under all the circumstances and conditions reasonable and nondiscriminatory."

In commenting on whether the reduced rates would be harmful to independent refiners near the source of production, who must rely on railroads and trucks for transporting their products to market, the examiner brought out that only one witness, Mr. Shatford, appeared in their behalf, but that he failed to produce any facts to substantiate the suggestions of dire evil to follow further reductions in pipe line rates. For this reason, he says, the records afford no basis for conclusions in this regard.

The respondent companies stated that no shipper appeared at the hearing to complain of the rates charged, or of the practices of respondents in connection with the minimum tender required, or any other matters, and that for these reasons the questions raised should not be gone into by the commission. The examiner held, however, that these problems are rightfully before the commission and should be ruled upon before a decision is handed down.

At the outset of the hearing the range of investigation was indicated by the commissioner to be:

Are the rate schedules in excess of, or below a reasonable rate, either because of the aggregated earnings of the respondents involved, or by comparison with other rates, or with reference to the cost of service performed, or because of the effect upon the movement of traffic or the value of the service to the user?

Should the rates be considered with respect to the respondent pipe lines individually, and what, if any consideration should be given to the relation and effect of rates upon: (a) Other pipe line carriers; and (b) other carriers, whether by rail or water, and whether subject to the Interstate Commerce Act or not?

The extent to which any disparities and differences in rates, seemingly evident upon the surface of the records, may be justified, and the reasons for such differences.

The justification for the varying minima disclosed in answer to the question on amount of minimum crude oil tenders, especially in the light of the decision of the Interstate Commerce Commission in Brundred Brothers v. P. P. L. Co. in which the commission entered an order prescribing a certain minimum tender as a maximum; and to find whether the order is being compiled with.

If it should appear that the earnings of pipe line carriers generally, or specific carriers, are or have been unduly high under the existing schedules, whether either reductions or increases might be required upon the basis of the present record with the intent that the earnings should be brought to a reasonable basis; and if it be contended the present record does not develop the necessary facts, what additional class of matters should be developed to permit a proper consideration of such questions.

The necessity and desirability for greater uniformity in rules governing shipment of petroleum by pipe line.

The commission indicate that the rates have been considered with respect to the individual pipe line companies both individually and collectively, and the commission is not concerned with their relation to either other pipe line carriers, or with water or rail transportation.

While there is some variance in pipe line rates as between companies, the commission found the greatest difference in the operations of individual companies lies in the minimum tender requirements. Answers show the rates may vary due to differences in transportation costs of various lines.

Justification for the varying minimum tenders has not been shown, the report indicates. The question in the Brundred case was not decided.

This report is not the final action of the commission, merely requesting that the commission reopen the proceedings upon its own motion for the purpose of bringing the record up to date, and to make final disposition of it. It indicates the probable result, however, as the reports of the examiners are usually followed by the commissioners.

Southern Oklahoma Interest Revived by Ordovician Well in Fox Field

By L. G. E. BIGNELL

Carter Oil Co. and others No. 1 Ruth Williams well in SW NE SW section 27-2s-3w, in the Fox field in Carter County, Oklahoma, which blew in last October and was later killed to make repairs, was finally completed April 6 with an official gauge of 3,020 bbls. of 41 gravity oil at 56° F. temperature produced between 12:50 p.m. April 6 and 7:20 a.m. April 7. It is estimated the well also produced gas during this period at the rate of about 20,000,000 feet daily with little variation in rate of gas flow.

During the second hour of this test the well was produced through 2½-inch tubing only into a trap against from 20 to 25 pounds pressure and made about 140 bbls. of oil with the casinghead pressure registering 1,260 pounds. During the last hour of the test the well flowed 100 bbls., indicating a settled production rate of about 2,400 bbls. daily. It is planned to continue to produce the well for several days before making decision to either acidize or deepen.

The well responded in about two hours and started flowing after the mud had been removed by washing with water, which took about 90 minutes, which indicates the formation pressure is still high. It is reported the oil and gas is coming from the dense lime in the lower part of the McLish formation of Ordovician age.

This is the final stage of this now famous well which has proven production in the Ordovician formation south of the Arbuckle Mountains. The mechanical troubles encountered in making this completion have been many and varied. As it is probable other wells will be drilled in this southern Oklahoma region it may be of interest to operators to review the drilling problems even though they have been recited in part in The Oil and Gas Journal some time ago when the well first had the showing of oil and gas.

Started last summer this well reached a depth of 8,098 feet, corrected, during the last week in October, 1935, and in attempting to free drill pipe stuck at this depth by the use of hydrochloric acid the well blew in out of control making a flow at the estimated rate of 10,000 bbls. of 36.2 gravity oil and 12,000,000 feet of gas daily. To bring the well under control the formation had to be plugged with 13-pound mud and since this was done last November repair work has been under way attempting to recondition hole so the well might again be brought in safely.

It seems probable the string of 4½-inch drill pipe used in drilling the first hole was caught by a cave of Sylvan shale as this formation was passed through from 5,435 to 5,735 feet, below the point where the 4,909 feet of 9-inch casing had been set and cemented. The lower 3,180 feet of hole was not cased and when the crew started to pull the drill pipe after reaching a total depth of 8,098 feet the uncased formations gave way and filled the hole after the pipe had been lifted about 18 feet off bottom. Subsequently one joint of drill pipe was recovered from the top of the string and this left the bit at a point about 50 feet off bottom of the hole or at a depth of 8,041 feet.

Attempting to release this drill pipe 2,000 gallons of hydrochloric acid were pumped into the hole through the drill pipe and when this acid hit the formation, since identified as Birdseye limestone, just below the bottom of the drill the well blew in. To again bring it under control one batch of 600 sacks of Baroid mixed with 5 per cent Aquagel was pumped through the drill stem using 500 pounds pump pressure and this was followed later with another batch of 500 bbls. of Aquagel, Baroid and cane fiber in an attempt to seal off the cavy portion of the hole. This was only partially successful and it was impossible to pull the drill pipe and it was later found the hole had bridged in the Hunton formation encountered below 4,915 feet or just below the bottom of the string of 9-inch casing.

Many attempts were made to restore circulation in this hole without success and it was finally decided to back off the drill pipe above the point where it was firmly held and then wash over it to recover as much additional drill pipe as possible. This operation was continued until between 6,900 and 7,000 feet of drill pipe was recovered. When the bridge in the Hunton formation was broken a large quantity of cotton seed hulls were removed showing that the circulation had been restored up to that point but it was never possible to build up sufficient pressure from the bottom of the hole upward to remove the cavings around the drill pipe.

After recovering nearly 7,000 feet of drill pipe it was found that the upper end of this pipe had fallen over against the side of the hole and it was no longer possible to wash it over. By "washing over" the drill pipe it is meant that one or two joints of casing larger in diameter than the outside diameter of the drill pipe are lowered into the well on the end of a string of drill pipe and water is pumped through this combination string and as it is lowered over the upper end of the drill pipe caught in the hole the mud and caving material around these upper joints of drill pipe is washed out of the hole. This liberates the upper end of the stuck pipe and tools are then run and the freed sections of drill pipe are unscrewed and recovered. This can only be done so long as it is possible to run the casing over the upper end of the drill pipe. When this upper end of the pipe falls over against the side of the hole and the wash string can only run down alongside of the stuck pipe it is only a matter of time until the washing operation is stopped because it is no longer possible to lower the wash string as the drill pipe occupies the space across the hole.

In this instance the crew was only able to wash down to about 7,060 feet and it was then decided to cement the hole back to 6,850 feet. This done drilling was again started and as the hole had a declination of about 7 degrees from vertical at about 6,800 feet the bit slipped by the cement plug and drilled a new hole very close to the old one. It is known that the new hole was near the old one for there was frequent interference from the remaining drill stem left in the hole after the recovering operations were suspended.

At 7,500 feet the bit was hung up and it was decided to cement back to 7,300 feet and this was done and the hole again started at the top of the cement plug and this time carried satisfactorily to a total depth of 8,030 feet.

At this point it was decided to run the 8,015-foot string of 7-inch O.D., 28-pound Grade D casing already on the racks. This done and the pipe properly cemented with about 2,000 sacks of cement the hole was continued below the bottom of the 7-inch string to a total depth of 8,105 feet or about 7 feet below the bottom of the old hole. It is believed the bit found its way back into the old hole below the casing seat for the 7-inch pipe and followed this old hole which permitted check of depths and accounts for the new bottom measurements.

While pulling drill pipe out of the hole from a depth of 8,067 feet the well made a sudden flow and blew about 30 feet of mud into the derrick before the drillers were able to close the rams on the blowout preventer at the top of the casing. With the blowout preventer closed and the mud reconditioned and pumped into the hole through the drill pipe still in position it was possible to again control the well and remove the drill pipe, change bits and resume drilling to reach final total depth of 8,105 feet.

This indicates something of the problems encountered in drilling wells in this section of Oklahoma. The final operation consisted of fitting the casinghead with a tubing connection and running 8,075 feet of 2½-inch tubing. Clear water was pumped into the hole through this string of tubing and the mud washed out through the annular space between tubing and casing until the weight of the fluid column above the producing formation was less than the formation pressure when the well came in and flowed oil and gas into the special high-pressure oil and gas separator set near the well to act as a safety device. The mud was washed into this separator and permitted to escape from the bottom of the trap into the slush pit until it was noted oil was being produced, then the bottom valve was closed and the oil discharged into the tanks erected near the derrick ready to receive it. The gas was blown to the air for the time being until pipe line can be laid to the well to take it to natural gasoline plant.

Completing Carter Oil Company No. 1 Ruth Williams well in the Fox field, Carter County, Oklahoma

RISK OF RODESSA STRAIGHTRUN AND ALKY-GAS W.P.R.A. TOPIC

EXCELSIOR SPRINGS, Mo., April 8.—Executives attending the twenty-fourth annual meeting of the Western Petroleum Refiners Association in Excelsior Springs on Monday, Tuesday and Wednesday of this week are, in general, a satisfied group. They might also be assumed to represent a cross section of the refining industry in the United States as a whole. In the past year a program of balanced refinery runs and market demand has been maintained and in the light of the slowly but surely increasing consumption of oil products, oil prices have had little difficulty in holding to a stable and reasonable level.

The problems which came up for discussion were presented with the idea of ironing out those operating imperfections that place inequalities among certain companies. For example, the need for a better definition of third grade gasoline is quite apparent and the desire of the association to establish definite octane specifications for the third grade won support.

At present, any gasoline of low octane number may be sold as third grade material in competition with the normal 55 to 62 octane produced by the majority of Mid-Continent refiners. More specifically, the 37 octane Michigan straightrun gasoline and the 40 to 42 octane 390 endpoint Rodessa gasoline may be classified as a third grade motor fuel without argument and may be priced according to the published quotations for third grade but, if the method of evaluation gasoline according to their anti-knock value is sound, this procedure of pricing should not be allowed to continue.

That was the attitude of a majority of the refiners while others contended there must not be more than three grades of gasoline generally quoted and the third grade should carry only the maximum octane specification. The latter group is satisfied that any material below 63 octane be classed as third grade motor fuel.

The matter of specifications strikes so closely to that of tankcar postings these subjects were considered jointly, the reports of A. E. Landsittle, of the Globe Oil & Refining Co., Emby Kaye of the Skelly Oil Co. and R. W. McDowell of the Mid-Continent Petroleum Corp. offering the basis for the discussion.

Diesel Fuels

That Mid-Continent refiners are cognizant of the problems presented by the growing market for diesel fuels, in competition with motor gasoline to some extent, was seen in the report of F. E. Holsten of the Barnsdall Oil Co. in which he showed there was need for exacting specifications and a survey presented by him served as the basis for standard specification. It was also suggested these be offered to trade papers as a basis for reporting prices.

Stable Markets

Much of the success of stabilizing markets among Mid-Continent refiners may be traced to the work of correlation done by C. E. Arnott of the Socony-Vacuum Corp., and while the routine of the program as laid down by him two years ago, terminated last May, there remains the broader vision given sales managers by him, that unsound markets mean self destruction as well as destroying one's competitor. His remarks before the convention again revealed, this thought.

Alky-Gas

Probably the most discomforting note in the meeting was that revealing the patented competition offered gasoline in the form of alcohol. Designed as an aid to farmers, the plan of supplying ethyl alcohol up to 10 per cent of the volume of the gasoline blend has been suggested, coming from the Chemical Foundation, Inc., interested in the expansion of the chemical industry generally. In the address of Dr. G. G. Brown of the University of Michigan he made it clear ethyl alcohol could be made more cheaply from oil and refinery gases than from corn and that already, the quantity of ethyl alcohol made from refinery gases and natural gases is substantial. He contended using alcohol would raise motor fuel prices generally, would hurt rather than aid the farmer and the quality of the motor fuel of the same cost would be lower than could be supplied by refiners.

Sugar Institute Decision

Due to the similarity of code work generally and the desire of the oil industry to salvage certain parts of the oil code which it had formulated and found beneficial, Fayette B. Dow, counsel for the association, presented an interesting discussion of the recent decision by the Supreme Court in the government's effort to dissolve the Sugar Institute, Inc. The general problems of the two industries are similar in several respects and by interpreting the court's decision in that case, Mr. Dow was able to outline the limitations and liberties which might be exercised in the normal trade practices among refiners and marketers. The presentation of the address on "Taxation" by Willis Crane of the Washington office of the association offered an introduction for Mr. Dow's address.

Following the thought that government will continue to play an important part in business and that the refining business must make itself interested in the various phases of social legislation as it affects the earnings of refiners, Ralph Hoween, Chicago attorney, discussing the social security legislation, said:

"It can be said unqualifiedly that the federal social security act passed by congress last summer is the most revolutionary piece of federal tax legislation which has been passed by the congress since the adoption of the sixteenth amendment to the federal constitution in 1913."

Memorial Address

The usual social and business tone given conventions was lost for a while on Wednesday morning when George D. Locke of the Barnsdall Oil Co. read a memorial address on P. M. Miskell. As head of the Empire refining organization he had been a constant worker in the affairs of the association and an able counsellor in the darker years just past. Mr. Locke summarized his tribute to Mr. Miskell thus:

"His devotion to the oil industry grew with his years of service to it, and throughout his illness which prevented his active participation in its affairs, his thoughts constantly turned toward it; when he was active, and that over a period of almost 20 years, he rendered the oil industry splendid service, in his constructive recommendations, sound advice, and timely suggestions, and his masterful leadership."

Stanolind Establishes Separate Proration Engineering Offices

The Stanolind Oil & Gas Co. is establishing in its Tulsa offices a separate engineering department for the handling of engineering work in connection with the prorating of producing wells throughout the entire territory in which the company operates. Wells located in Oklahoma, Texas, Kansas, New Mexico and Colorado will come under the jurisdiction of the new office.

RALPH L. MAREK

Ralph L. Marek has been placed in charge of the office as prorating engineer, having resigned the office of chief engineer in charge of engineering and conservation in the East Texas field for the Texas Railroad Commission. Prior to that he was in the division of production in the Gulf Coast area for the commission. Mr. Marek assumed his new duties in the Stanolind company April 1, and will make Tulsa his home.

Crude Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ending March 21 totaled 310,350,000 bbls., according to the Bureau of Mines, an increase of 230,000 bbls., comprising increases of 74,000 and 156,000 bbls. in stocks of domestic and foreign crude, respectively. Daily average crude runs to stills remained unchanged at 2,820,000 bbls. Daily average imports were 60,000 bbls., a decrease of 35,000 bbls. Indications point to a decline in exports.

Grade of crude oil—	March 14	March 21
Pennsylvania Grade	4,119,000	4,161,000
Other Appalachian	837,000	822,000
Lima-N. E. Indiana-Michigan	1,170,000	1,186,000
Illinois-S. W. Indiana	10,497,000	10,489,000
N. Louisiana and Arkansas	9,603,000	9,701,000
West Texas and S. E. New Mexico	28,694,000	28,787,000
East Texas	20,430,000	20,445,000
Other Mid-Continent	127,209,000	127,239,000
Gulf Coast	25,783,000	25,913,000
Rocky Mountain	26,575,000	26,646,000
California	35,514,000	35,222,000
Foreign	3,134,000	3,290,000
Total reported weekly	293,620,000	293,890,000
Estimate of unreported stocks	16,500,000	16,550,000
Total stocks	310,120,000	310,350,000

Hendricks Extension?

MIDLAND, Tex., Apr. 7.—R. H. Henderson well, section 9, Block 26, Winkler County, came in last night estimated 100 bbls. per hour with 7,000,000 to 8,000,000 feet of gas. It is 2 miles west of Sayre pool and 2 miles north of Hendricks pool, probably an extension of the latter.

Optimism Is Reflected in Presidential Address Delivered Before Refiners

By C. M. BOGGS
President of the Kanotex Refining Co.

I believe it would be both fitting and proper, on the occasion of the twenty-fifth anniversary of the Western Petroleum Refiners Association's birth, to devote some time on next year's program to record the achievements of the organization which has been an outstanding factor in the solution of the problems of the refiners located in the Mid-Continent field.

Shortly after we adjourned the annual meeting last year came the passing of the National Industrial Recovery Act and the abandonment of the petroleum code. For almost two years our industry had been operating under its authority and after its dissolution by the Supreme Court of the United States the industry was thrown into more or less confusion. It is not our intention to go into the merits or demerits of the code. It had its proponents and opponents. There is at least one thing it accomplished, however, that has been of inestimable value to the industry. It brought about a better understanding and relationship between individuals in the same line of endeavor and made every one realize that there was some virtue after all in his competitors. While the activities permitted under the code were discontinued after its passing, the friendships made during its life existence will continue while this present generation continues to live.

The code did bring to every individual and company engaged in the refining business in the Mid-Continent field a study of the economies of the refining industry. For the first time the refiner as an individual action began to follow the age-old law of supply and demand. He began the study of government and other forecasts with regard to consumption and to evaluate his position in regard to the whole industry. He began to realize that flooding the country with gasoline with no regard to the country's ability to absorb more than a stated amount meant an inevitable loss and possible extinction. Due to this study and to the application of the theory of economies, the Mid-Continent refiner through his own individual efforts has brought order out of chaos and has placed his company, for the first time in many years, on a sound operating basis.

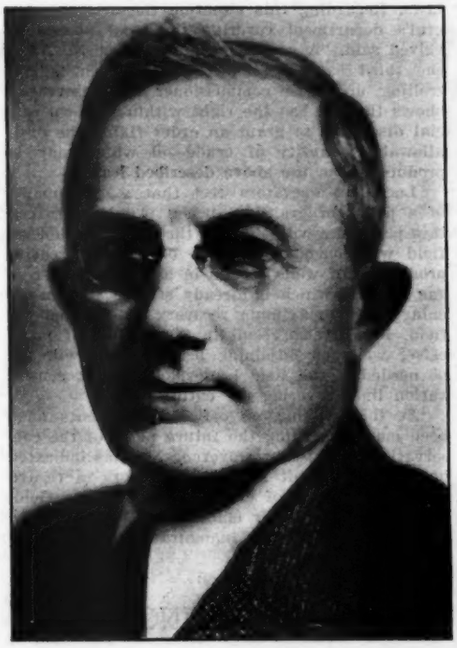
Fair Marketing Code

The code proved one other thing, and that was that some sort of voluntary acceptance of fair trade practices was needed. Efforts originating last year have culminated in the adoption of a code of fair marketing practices for the petroleum industry by all organizations, representing all phases of the petroleum marketing in the so-called Indiana territory, and the code is now being presented to the marketing branches of the industry in all parts of the country in an effort to make it national in its scope. It is to be hoped that approval by the Federal Trade Commission will be forthcoming upon the presentation of the code to that body.

In this connection, the members of the Western Petroleum Refiners Association have subscribed to the code and there is no doubt that when it is approved this body of men will live up to its every rule and principle.

In connection with the code, I should like to call attention to the splendid efforts put forth by C. E. Arnott to improve the marketing practices of the petroleum industry. Perhaps no more unselfish activity in the oil business has ever been manifested than shown by Mr. Arnott. He has labored early and late to bring about his one great desire, to see the elimination of bad marketing practices. The thanks of the entire industry are due Mr. Arnott, and it is our very great pleasure to have him on our program this afternoon.

Another highlight in the year 1935 was the restoration of the East Texas oil field to the domain of law and order. You are familiar with conditions which existed in that field for several years and there is no need for me to recount them here. There is hardly one among us here today who has not at some time or other felt the devastating ravages of the flood of low priced gasoline which poured into our normal marketing territory, with its attendant destruction of established business and morals. Thanks, however, to the constructive element engaged in the refining business in that district, some of whom are with us today and to whom we extend a cordial welcome, plus the efforts of the government and state, the old conditions have been practically eliminated and for some months East Texas refiners have not only been rejoicing over the lifting of the stigma which has rested on that particular field but have been enjoying a fair return on their investments to which they are rightfully entitled. That they are jealous of their fine position cannot be doubted, and there is no reason to believe that their great accomplishment may not be maintained.



C. M. BOGGS
President of the Western Petroleum Refiners Association

Greater Demand

The tremendous demand for gasoline last summer, far exceeding the estimates, with a fair tank-car price for gasoline made the year a profitable one, the best in fact since 1928. The consumption estimates for the year 1936 indicate an even greater consumption than in 1935, itself the greatest gasoline consuming year in the history of the petroleum industry. With the same close application to basic principles in 1936 as was observed in 1935, there is no reason to expect other than a profitable year for the refining industry in this part of the country.

Active committees working on problems of industry are the foundation stones of any trade association. A number of committees have given much time and attention to the refining and specifications branches of our business. Over the year, these committees have contributed much valuable information to our members and to the refining industry generally. Their activities should be continued, and additional committees should be appointed to work on every problem which presents itself. On behalf of the entire association I want to thank these gentlemen who have so unselfishly given of their talent and their time in order that the whole industry may profit.

The Western Petroleum Refiners Association is in a strong numerical and financial condition. For the first time in many years it can truthfully be said that it represents the entire Mid-Continent industry. The present roster shows the names of 53 active members, a gain of almost 100 per cent over the year 1934. No company is too large, none too small to become a member, if it is actively engaged in the refining business. If any of you are not now members, a cordial invitation is given you to affiliate yourselves with us.

In addition to our active members, we have three associate members: Ethyl Corporation, Great Lakes Pipe Line Co., and the Union Tank Car Co. I want to take the opportunity to thank these firms for their affiliations with their organization.

H. T. Ashton, chairman of the finance committee, and his committee are to be complimented on the fine job they have done as attested to by the splendid cash position of the association.

The Washington office of the association year by year is becoming more valuable to the members. We extend to Mr. Dow and his able staff our appreciation of the work they are doing.

My address would be incomplete without special reference to the outstanding work done by A. V. Bourque, secretary of the association, together with that of his able assistant, John C. Day, and the efficient office force, Miss Collins and Miss Patterson.

When I accepted the presidency of the association last year it was with the assurance that every member of the organization would stand strongly behind me and give every bit of assistance possible. I should be ungrateful if I did not acknowledge my gratitude for the friendship, loyalty, and help you have given me throughout the year.

This year will be what we make it; our destinies lie in our own hands. We can be forgetful of the lessons we have learned from the year just closed and revert to those conditions which all but wiped out many companies engaged in our branch of the industry in this section, or we can go on, keeping in mind the economics of the business and, pursuing our individual paths, guided only by individual thoughts and actions and at the close of this year come together at our next annual meeting with a record of achievement even greater than the one with which you closed this year.

Connally Act Upheld

NEW ORLEANS, La., Apr. 6.—The U. S. Court of Circuit Appeals, New Orleans, has upheld the district court's decision in the Griswold case, upholding the Connally act.

Flurry Over Rodessa Allowable Exception Not Finally Settled

SHREVEPORT, La., April 6.—Action of officials of the Louisiana Conservation Commission in permitting one company to produce crude oil from its wells in the Rodessa field far in excess of the allowables of other wells has brought wide comment in local oil circles with reverberations in the adjoining state of Texas. The excess allowable for the one operator ended when the situation was brought to the attention of Governor Noe, but it is feared that the controversial matters involved have not been finally settled and questions concerned with the legal and enforcement phases of the conservation laws of this state will again be raised in the near future.

The situation in regard to the excess production of one company became known when the Federal Tender Board of Kilgore, Tex., made public the correspondence and orders of the Louisiana Conservation Commission following a request for the movement of 125,000 bbls. of crude by the pipe line department of the East Texas Refining Co. J. W. Steele, chairman of the federal board, brought up legal questions in regard to the production of the crude and its movement from Louisiana to Longview, Tex., the terminal of the new 57-mile 8-inch line built by the East Texas company. The request involved the tender of the oil to another pipe line system connecting to the Gulf Coast from which point the oil was to be transported to the Bayonne, N. J., refinery of the Tide Water Oil Co.

The correspondence and orders showed that Robert S. Maestri, Commissioner of Conservation of Louisiana and Dr. J. A. Shaw, Director of the Minerals Division, after securing a ruling from James O'Connor, Assistant Attorney General, had granted permission to the Pelican Oil & Gasoline Co., Inc., of this city to produce 20,000 bbls. daily for 60 days from 13 wells located on its Sexton farm lease in section 14-23n-16w, of the Rodessa field. The East Texas Refining Co. was the purchaser of the crude and the commission's orders covered the production of the crude and its transportation of the crude from the Rodessa lease to the Longview, terminal facilities of the company's pipe line.

The Pelican company of which R. C. Glassell, well known Louisiana operator, is head, increased its production the last few days of March. It is understood that approximately 65,000 bbls. of crude oil was produced and delivered to the pipe line company over a period of five days. This was average production of 1,000 bbls. per day per well. Some of the Pelican wells are capable of producing only a small quantity of the crude oil or distillate, which means that the remaining wells, some of which are line wells produced far in excess of the 1,000 bbls. daily.

When the Federal Tender Board raised the question as to whether this oil was legally produced and whether the interstate movement was legal under the Connolly Act the transaction became known, and protests were made to Governor Noe who had not been advised of the action of the Conservation Commission. It was pointed out that if the one company was permitted to continue the excess production of crude it would probably result in a complete collapse in the efforts to enforce conservation principles in the development of the Rodessa field. It is known that at least two operators threatened to increase their production from 400 to 1,000 or more barrels per day. Upon the request of Governor Noe the Pelican company officials reduced their production to 400 bbls. daily and are now producing at the rate of 350 bbls. daily which is the Rodessa allowable per well for April.

So far as known the Conservation Commission has not rescinded its orders permitting the large production and transportation from the field. There have been reports that suits will be brought to determine some of the legal questions involved. The granting of the permission was based on the "market demand" feature of the Louisiana Conservation Acts. The fact that the East Texas company was in a position to buy and transport the crude, and had itself resold the crude was said to constitute a "reasonable market demand" provided for under the Louisiana Conservation laws. Regarding this situation the attorney general's department covering the legal phases involved said, "A careful reading of Act No. 13 of the third extra session of 1935 which is controlling upon the commissioner of conservation shows that he has the right within his own official discretion to grant an order fixing the daily allowable quantity of crude oil which may be produced from the above described lease."

Local oil operators feel that a continuance of a policy of granting special privileges to certain producers will result in throwing the Rodessa field wide open. They point out that increasing production of wells results in a large increase in gas wastage which is already serious and threatening to the maximum recovery of oil from the field. It will also result in the drilling of many offset wells on adjoining leases which will not be needed if the field is developed along conservation lines covering the entire field.

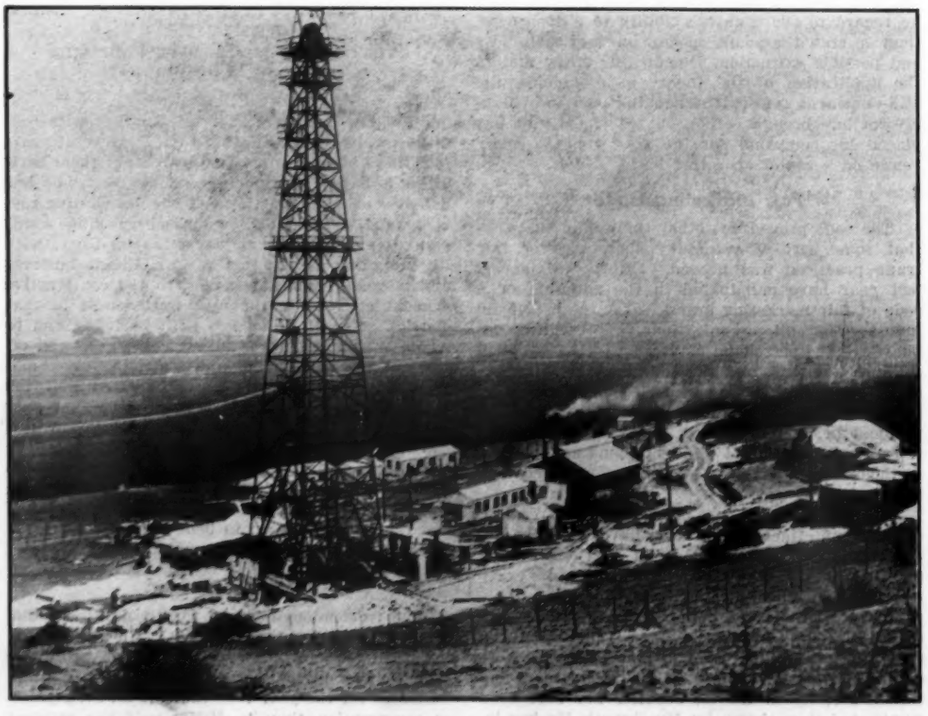
At this writing no official statements have been made regarding the future plans of the conservation commission. Governor Noe has indicated he will not permit any special favors in regard to the production of crude in the Rodessa field. His term as governor ends May 12 when Judge Richard Leche will be inaugurated. The Federal Tender Board at this writing had not finally decided whether it would permit the movement of the crude from Longview to a Gulf Coast pipe line terminal. A representative of the board has been in Baton Rouge conferring with state officials to determine whether the oil was produced in violation of the Louisiana conservation laws, which would be basis of refusal to permit the interstate movement of the crude under the federal act. Should the board refuse to permit the movement of the crude it is understood the East Texas Refining Co., which has its headquarters in Dallas, will bring suit contesting the board's right to take such action.

There have also been reports from Texas that certain interests will protest movement of Louisiana crude into that state especially when coming from wells which are allowed to produce far in excess of the daily well allowables in Texas. Many operators in both states are suggesting a joint conference in the immediate future with the view of ironing out controversial points with special reference to the development of Rodessa which now extends into Cass County, Texas.

Ickes on Louisiana

WASHINGTON, D. C., Apr. 7.—Secretary Ickes said he is considering curtailing the Louisiana petroleum production allowable as a result of developments in the Rodessa field. Such an act, he said, would follow a report by George Holland, director of the Petroleum Conservation Division of the Interior Department. Senator Connally of Texas has protested "flooding of the East Texas region with Rodessa oil."

EVERYTHING READY FOR ENGLAND'S TEST



Preparations about completed to start drilling at Portchester, Hampshire
(Photo by "Acme")

New drilling zone as seen from tanks on Piersol lease of British American Oil Producing Company

Handling of Drilling Mud, Water, Gas Create Problems in Oklahoma City

By L. G. E. BIGNELL

By declaring a military zone covering state-owned property within the boundaries of Oklahoma City, Governor Marland has thus far succeeded in arranging to start five wells near the State Capitol and Executive Mansion, with national guardsmen patrolling the grounds to keep city officials from interfering.

This controversy between the state and city governments apparently has no effect upon the actual work of making new locations and drilling wells in the new zone north of the state property and now that the state is leasing its property for drilling purposes it seems quite likely the city council will authorize another election to be held very soon to declare all of the east side of Oklahoma City open for drilling. A survey is now being made among property owners in the restricted zone between state property and the new zones to be created after April 10.

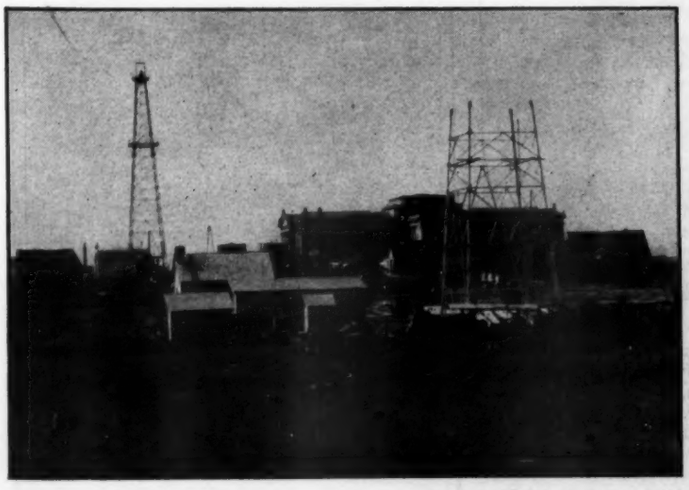
The creation of the new drilling zone immediately north of the State Capitol and Executive Mansion in Oklahoma City has caused a rush in making locations for new wells and a demand for labor and equipment to start operations that is of a magnitude not frequently experienced in oil fields. More than 107 drilling sites have been staked in the 1 square mile within the new zone created by the March 24 election and of this number more than 70 locations are now being covered with derricks and drilling equipment or the work of drilling has actually started. The balance of these locations will become active just as quickly as the drilling permits can be secured and material moved to the ground and erected.

At the March 24 election the citizens of Oklahoma City also authorized the city council to create two additional drilling zones having a total of about 210 acres. It seems probable that more than 60 additional drilling sites will be made in these two new zones and to these may be added the 17 drilling sites on state land, bringing the total of new wells for the Oklahoma City field to more than 130, all to be started before the middle of April. This rush to start new activities will tax the ability of the equipment manufacturers to furnish suitable material, the contractors to move in drilling equipment and find men to operate same. With an average of only four men per tour and two tours daily there will be a call for 520 drillers and helpers added to the many men now working in this field. It is reported more than 90 new locations were made in West Texas last week, indicating the activity in other fields, and it is probable the inability to secure competent help may slow up this work in Oklahoma City field.

For those wells that actually drill to the Wilcox sand it is anticipated about 60 days will be required for completion or they will not be ready to bring in before June 1 but after that date it is expected many new wells will be completed, causing some confusion.

This concentrated effort to start and complete such a large number of wells in the shortest possible time has created a condition rather unique in the history of Oklahoma City oil fields. It is true more wells were drilled at one time during the height of the drilling campaign in the south field but because of the fact these new wells are located in the residential district of the city and conditions there are not the same as they were in the main field the operators are now faced with many special situations.

The demand for material has been unusual and many companies supplying derricks, substructures, drilling equipment and other accessories needed to



Rigging up a short distance north of Oklahoma State Capitol

Back yard location in new drilling zone, Oklahoma City field

start these wells have actually run out of equipment. This situation will be remedied but the shortage of skilled men to dig cellars, erect derricks and pour concrete has been acute and some wells cannot be started until these men have first completed jobs on which they are now working.

Most operators are digging relatively deep cellars, about 20 feet on the average, and this requires some blasting, for the surface in the north end of the field is composed largely of rock. First it is necessary to secure experienced men to do this type work because damage can result if the dynamite is not properly used.

When the hole for the cellar is excavated concrete must be poured to line the cellar and runways and make the corners for the derrick foundations. This work all requires skilled mechanics, and with the large number of operations started at one time this type labor became short. It takes about one week to complete this part of the work and these men are then released to go to other new locations, but this means a delay of from one to two weeks in starting many wells.

To permit the wells to be drilled in by the pressure control method, which is necessary in this field now because of the low formation pressures in the Wilcox formation, it is necessary to set the derricks upon steel subbases. These bases raise the floor of the derricks about 6 feet above the top of the cellar and it is then unnecessary to build high temporary structures upon the floor of the derrick to handle the pressure control equipment.

Derricks are all of steel and 122 feet high. They are of the heavy rotary type and will in most instances be boarded so that oil and gas will be kept from blowing over adjacent property when the wells are drilled in. This is normal precaution in any field where the wells are located close to improved property, but in the new drilling zones in Oklahoma City it is especially necessary because of the valuable buildings in the district.

The rotaries will be powered with steam and three 125-horsepower, 250-pound working pressure boilers will be erected at each location. These boilers will be fired by natural gas secured from lines laid to the north end of the city. The pressure usually required to operate the ordinary burners is about 15 pounds per square inch, although it is understood a new type burner operating at as low as 3 pounds pressure is being tried out and giving satisfaction. This is an advantage where it is necessary to run relatively high pressure lines through an area where residential property is nearby. If these high pressure lines leak, damages from explosion may result.

The boilers also require considerable water and many operators have made application to the city waterworks to secure this water from the city mains. It is not going to be possible for the city to supply water for drilling all of these wells. This means that many operators will have to drill wells to the water sand found at about 700-foot depth and lay pipe lines from the water wells to the drilling sites. This in some instances will mean further delay.

To the east of the new drilling area there is a stream draining into a small body of water known as Northeast Lake created by damming the stream. As the watershed in the oil field is toward this stream, any mud, water or oil on the land surface may be washed into the lake. To prevent mud from the slush pits being washed out during rain storms a mud line has been laid from the north extension of the oil field back to the Canadian River and all excess mud is being pumped through this pipe line to the river where it is disposed of along the banks of the stream. It dries there and causes no further trouble.

The casing programs on wells will vary but one of the largest operators plans to start the hole large enough to permit a string of about 1,000 feet of 13-inch O.D. casing being cemented from top to bottom. This provides a good tight upper string and out of this casing a 11¼-inch hole will be drilled to the top of the Wilcox formation where a string of 8⅝-inch pipe will be set and cemented.

When this cement is set the hole will be drilled into the producing formation using the pressure control method in most instances. This is necessary because the formation pressure in the Wilcox sand in the north end of this field is now about 475 pounds per square inch. When British-American Oil Producing Co. No. 1 Mary Green was completed the formation pressure in the Wilcox sand was about 525 pounds. This indicates a drop of about 50 pounds in pressure since last October when the Mary Green well was first drilled into this formation. The present gas-oil ratio of the new wells is about 1,400 to 1,500 feet of gas per barrel of oil. This is not high but as the wells are produced the gas-oil ratio materially increases and some fear a gas cap may be created in this north extension Wilcox zone.

GEORGE D. WILLIAMS

OBITUARY

JAMES HENAGHAN

JAMES HENAGHAN, of Oakpark, Wheeling, W. Va., died Friday afternoon, April 3rd, at the age of 78 years. Burial was at Wheeling, Monday, April 6th, 10:30 a.m.

Survivors are his wife, Mrs. Elizabeth Jenkins Henaghan; three daughters, Mrs. William Polen and Misses Ellen and Mary, all of whom live in Wheeling; two sisters, Miss Kate Henaghan and Mrs. Margaret McMinimen, both of Sistersville, W. Va.; two nieces, Miss Mary Hanlon of Wheeling, W. Va., and Mrs. Albert Wolbert of Steubenville, Ohio; one nephew, E. I. Hanlon, chairman of the board of National Bank of Tulsa and chairman of the board of the several Hanlon companies.

Mr. Henaghan was born at White Sulphur Springs, W. Va. He was a pioneer natural gasoline manufacturer and oil producer, having first entered the oil business in 1893 when he organized the firm of Henaghan & Daly at the opening of the Sistersville field. Mr. Daly died in 1905 and at that time E. I. Hanlon bought the Daly interests and the firm name was changed to Henaghan & Hanlon, Inc. This firm built the third natural gasoline plant in the United States at Sistersville, W. Va., in 1908.

WILLIAM JAMES RULE, JR., manager of distributor sales for Richfield Oil Corp., of New York died very suddenly on April 2 at Havana, Cuba, while on a West Indies cruise.

CHARLES S. LOCKWOOD, 86, who worked with John Wesley Hyatt on the invention of the Hyatt roller bearing, died in Newark, N. J., March 20. Mr. Lockwood's career covered 62 years of service in the employ of John Wesley Hyatt and the companies Mr. Hyatt founded.

VACHEL HARRY McNUTT, 50, well known geologist and formerly a resident of Tulsa, died on April 5 in San Antonio, Tex., where he has lived since 1922. He was born in Fulton, Mo., and graduated from Missouri School of Mines at Rolla, Mo., and early become associated with M. M. Valerius and V. H. Hughes and aided in the discovery of the Fairport pool in Russell County, Kansas.

JONH F. HAZLETT, 68, a well-known oil producer of Bredinsburg, Pa., died recently. Mr. Hazlett was born in Oil City, Pa., September 1, 1867.

GEORGE DAIBER WILLIAMS, 43, executive vice president, Hancock Oil Co., of California, died in Seaside Hospital, Long Beach, Calif., recently.

JOHN ROE CRAWFORD, 56, past president of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, died at his residence in Shreveport, La., March 31, following an illness of two months. Born in Chickasaw County, Mississippi, he moved to Shreveport in 1908 shortly after discovery of the Caddo field. He made his "stake" in the Corsicana, Texas, field, and subsequently played a majority of the major fields in Louisiana, Arkansas and Texas.

JOHN R. CRAWFORD

No Need to Fear Flood of Panhandle Gasoline Following Court Decisions

By W. T. ZIEGENHAIN

There is no apparent reason to expect natural gasoline production to be altered in the Panhandle field of Texas as an immediate result of the three-judge federal court decision rendered in Houston last week in favor of two major gas pipe line companies.

It is true the court held invalid the Panhandle gas proration order and said no ratable taking order could be written by the Railroad Commission under the present law, but on the same day the same court held that no sweet gas could be processed for the manufacture of carbon black and repeated that penalties would be placed against anyone practicing waste of gas. As a result there can be no thought of stripping plants resuming operations in the manner they operated prior to enactment of the law.

The decision, in the form of a permanent injunction against the Railroad Commission's orders, gives the Texoma Natural Gas Co. and the Consolidated Gas Utilities Corp. the right to produce gas from their wells in any quantity without having to purchase gas from other producers in the field so long as the gas taken by the pipe lines is not wasted. In this respect the pipe lines have won a sweeping victory and only time can tell what use they make of it.

If the pipe line companies take full advantage of their position and refuse, as they have in the past, to purchase gas in substantial quantities and on somewhat of a ratable basis, there is strong likelihood that efforts will be made to introduce a new bill in the next meeting of the Texas legislature which will be designed to force these companies to take a greater portion of the available gas. If, on the other hand, pipe line companies voluntarily make connections which they refuse to be forced into doing in the past and are willing to provide an outlet for that gas most urgently offered, there is a strong possibility the wrangling will automatically cease.

This may be obtained better now because gas pipe line companies generally are witnessing a greater demand for supplies and a substantial load will be placed on the Panhandle lines within a few months by the extension of the Panhandle Eastern lines into Detroit.

Sight should not be lost of the fact, however, that an appeal of the court's decision is being prepared for presentation before the Supreme Court of the United States and all that can be said now applies only to what may be done pending its decision, which students indicate could not be given before seven months have passed. Compilation of the appeal will take one month.

One of the 29 carbon black manufacturing units

Field Operations

For a year prior to passage of the famous Panhandle gas conservation order it will be remembered natural gasoline production in the Panhandle area mounted rapidly as a result of stripping plant operations and then, immediately after the law and conservation orders were issued, gasoline production was reduced about 295,000 gallons daily. This production is gone forever and a careful analysis of the decision of the court in deciding the Texoma Natural Gas Co.'s case against the enforcement of the Texas Railroad Commission's orders which is given here in part, will explain why this is true.

Compressor station of large natural gas pipe line

"Though complainant's attack was levelled against both the statutes and the orders, the primary attack was....on the orders. The act is under attack only if and to the extent that it supports the complained of orders. . . .

"The orders....purport to bring the whole field under a comprehensive plan of regulation and control. . . .

"Plaintiffs . . . . complaint is general against the provisions of the order which . . . . fixing an allowable production from plaintiffs' wells below the amount they require and have been taking, makes it compulsory upon them to purchase from the wells of others gas which plaintiffs have an already ample supply. Their claim is that since it is undisputed that plaintiffs are and always have been producing without waste of any kind, the order as to them is not a waste order, but as all prior orders have been, simply one designed to furnish markets to those having none. They insist that these pretended proration, but in reality reduction, orders are invalid (1) because not authorized by statute and (2) because they take plaintiff's property without due process. . . .

No Order Can Apply

"Their insistence is that no scheme of allocation or proration which . . . will compel them to buy from adjoining well owners can be constitutionally applied. . .

"A careful consideration of the record leads us to these conclusions: (1) Before the going into effect of H.B. 266, grossly wasteful practices were going on in parts of the field. . . (2) No substantial evidence was offered that anything complainants had done or contemplated has in the slightest degree contributed to that waste. . . .

"The commission's proration order was therefore based not upon market demand in the field but upon the amount required by plaintiffs and other pipe lines for supplying their customers at distant points. . . .

"There is no credible evidence to justify the conclusion that as applied to these complainants, the restriction of their production below their absolute needs was in the slightest related to the prevention of the waste of gas, or as to them, would have any reasonable purpose of effect whatever except to furnish a market for those whose

prior wasteful uses of gas the legislature now prohibits. We therefore reject, as without basis in the record, the claim of respondents that the orders must be sustained as waste measures, enacted to prevent waste with an eye single to the performance of that duty and function, and find instead that they are orders enacted to bring about a compulsory purchase upon the theory of correlative rights."

The above statement suggests an answer to the question "Why may the commission legally prorate the production of crude oil and not gas?" The court further clarified its position in this respect by emphasizing the fact that it considers the original law and the authority for the commission's orders issued under the law designed solely to cover the factor of "waste" and in part said:

"The plain terms of the act . . . in the light of history, make it abundantly clear that this act is designed to implement the commission in dealing with the glaring and patent waste problem which the Panhandle and other fields presented. Its declaration of policy does not declare that the statute was enacted to define correlative rights, to create a new rule or property, and authorize the commission to ascertain, without judicial intervention, rights in a gas field. Nowhere in the act is there any provision which in terms or by reasonable construction, can be construed as authorizing the commission to prorate production, waste apart, on consideration of sharing markets."

Equitable Gas Production

It is interesting to note that the court recognized the possibility of formulating laws which might cause an equitable prorating of gas production and upon the court's statement, which follows in part, some operators say lies the possibility of new and more restrictive proration laws being sought, especially should the pipe lines continue to take only that gas which is produced from their own wells. The portion of the decision referred to follows:

"It may be that by a complete, a comprehensive scheme which, consistent with due process, considers and has regard for the rights and equities of all, the legislature may be able to provide by law for an equitable ascertainment, partitioning and fixing of them (rights and equities) so that each could take only what was thus determined to be his own. We do not say that it (the legislature) cannot do this. We say merely that it has not done so. We say that H.B. 266 cannot be said to have either this object or effect. In the first place, it considers only wells actually drilled. No connizance is taken of undrilled territory. It provides only for temporary and therefore arbitrary allocation of a part of the contract market of some of them. The evidence makes it plain that complainants have been taking gas in orderly fashion and in a total far less than under any equitable theory of measurement would be apportioned to them, while some of those in whose interest, under the notion of correlative rights the orders seek to administer the act, have been taking it exhorbitantly, disproportionately and wastefully. No provision is made for taking into account these and many other matters which must be considered if any equitable and fair distribution is to be attempted.

"In addition, if the act be construed as intended to appoint the commission as a body to partition the rights of oil and gas owners, it would be a palpable and direct violation of Section 1, Article 2 of the constitution of Texas . . . leaving it (the commission) at will to take from one and give to others, rights in property. A roving commission of this kind, to undo and set up, to take away and restore, the property rights of the people, may not be thus delegated.

"Because . . . the commission is entirely without power to prorate plaintiffs production on a theory of correlative rights, and because there is no waste in the sweet gas area, it is equally without power to prorate on the theory of waste . . . we find it unnecessary to decide or consider the subordinate questions . . . plaintiffs make a case so plain that all may see . . . it is the exercise of coersion to take from one and give to another. The force of government may not be exerted to bring about such partial, such unjust effects.

"This controversy has been long drawn out . . . this is the fifth time this court has written. If the principles on which we have proceeded have been wrongly taken, this should be determined by an appeal. Litigation should be brought to an end."

As suggested previously, the decision of the court in the Texoma case which affects pipe lines must be correlated with the decision of the same court in regard to the use of Panhandle gas for the manufacture of carbon black. The latter decision was directed against the F. C. Henderson and Portland Gasoline companies, these companies having sought relief from orders issued by the commission prohibiting the use of sweet gas for the manufacture of carbon black.

The court's decision in part follows:

"The carbon black industry has been nomadic, journeying from field to field over in quest of cheap gas.

"There have been few improvements made in the method of manufacturing since 1892, the one commonly employed, and employed by complainants, being the channel process. Either sweet or sour or casinghead gas may be used, and from the burning of 1,000 cubic feet of gas approximately 1½ pounds of carbon black is made. The gas is entirely used in the manufacture of carbon black and there is no residue that can be devoted to any other useful purpose.

"There is evidence in the record to indicate that probably as much as 30 pounds of carbon can be recovered from 1,000 cubic feet of gas by other processes than those used by complainants. There is some indication that restriction upon the use of gas may cause advancement in the industry which will recover a greater yield of carbon black.

"Regulations looking to the conservation of gas and the prevention of its waste may be validly made, and if they have a reasonable relationship to those things it is immaterial that they interfere with the uses which the individual may desire to make of his property. A Texas landowner owns the gas in place under his land and he may withdraw the same by mining operations, and if in the course of so doing, part of his neighbor's gas migrates to his land he may withdraw that gas without liability. The statement of these facts, coupled with the known migratory character of gas, immediately makes it apparent that there must be some limitations upon these property rights which exist in the land owner. While he has the unquestioned right to withdraw his gas, and such gas as may migrate to his land, it is perfectly evident that if he does so in a wasteful manner or for a wasteful purpose he has exceeded any property right which he may have been thought to have had. The owner of a gas well, who under the capture doctrine, withdraws gas which has heretofore been his neighbor's and uses it wastefully, thereby, not only destroys a natural resource of the state, but impinges upon the rights of others in the common reservoir.

"It is thoroughly settled that the popping off of gas into the air is a wasteful practice which may be forbidden; that the production of an oil well with an inefficient gas oil ratio may be stopped, that gas wells may under certain circumstances be ordered plugged, and the stripping of gas for the purpose of securing its gasoline content may be prohibited.

"The question of the value of the product obtained as compared to the value of the raw gas is not at all determinative of the matter. The question of the utility of carbon black as against the utility of sweet gas for light and fuel does not finally determine the issue.

Waste of Sweet Gas

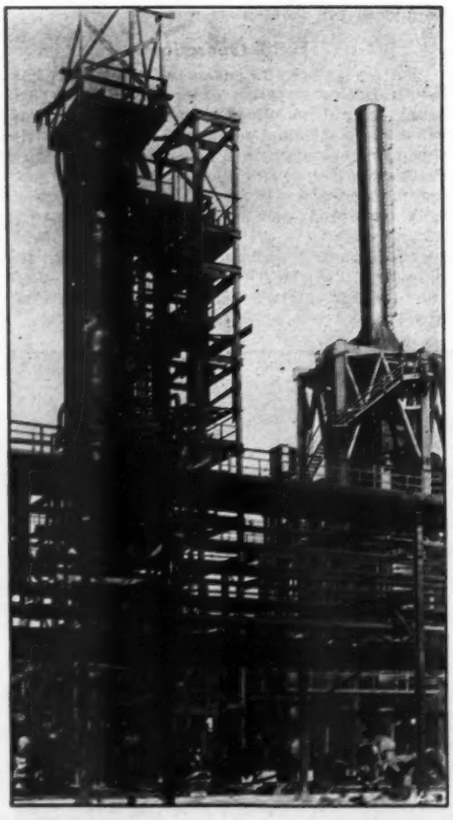
"If upon the facts of the case the legislature has decided that the burning of sweet gas to make carbon black constitutes too great a destruction of a natural resource of the state for the result accomplished, and that on the other hand, it is more desirable for that gas to be devoted to other necessary uses, it does not lie within the power of the court to review that determination and substitute its judgment, conscience and discretion for the judgment, conscience and discretion of the legislative body. Unless the determination of the legislature is clearly without factual support thereby rendering it arbitrary and unreasonable the court is without power to intervene.

"Complainants' contention that the legislative definition of sour gas is unsupported by the facts is untenable. The court is unable to say the legislative definition is arbitrary or unreasonable.

"Complainants' third ground of attack rests upon the claimed impairment of their contracts with the carbon black companies.

"Where matters affect the public safety, health, welfare, morals or well being they may not by contract be placed beyond the power of the state to regulate and control them. The argument defeats itself. If it were conceded to be true any individual could by contract place his business or property beyond the realm of the police power.

"The parts of the statute and orders under attack here are authorized by the constitution of the state of Texas and in no way contravene the constitution of the United States. Unlike the proration order concerning which we have written in an opinion handed down today in Consolidated Gas Utilities Corp. et al vs. Thompson et al, the statute and order in question in so far as they define and classify sweet, sour and casinghead gas and regulate the use thereof, are true waste measures, bearing a reasonable relationship to the conservation of the natural resources."



Stabilizing tower on one of the combination topping and cracking units in the Port Arthur refinery of the Gulf Oil Corp. of Pennsylvania

Lubricate for Safety Week Committee Is Appointed

A meeting was held March 23 at the American Petroleum Institute, New York, to discuss plans for a "National Lubricate for Safety Week" to be sponsored by the petroleum industry May 23-30, 1936. The purpose is to develop within the industry a coordinated effort for encouraging operators to drive safely, to observe accepted safe-driving methods, and to maintain their vehicles in safe-operating condition through regular lubrication and inspection of working parts.

A national lubricate for safety week committee was named: Chairman, W. H. Correa, Socony-Vacuum Oil Co.; Walter Saybolt, Standard Oil Co. (New Jersey); L. C. Eldridge, Shell Petroleum Corp., St. Louis, Mo.; H. P. Hobart, Gulf Refining Co., Pittsburgh, Pa.; F. B. Dow, National Petroleum Association; Ray Shaw, Chek-Chart Co., Chicago; J. E. Moorhead, Pennsylvania Grade Crude Oil Association, Oil City, Pa.; O. J. Tuttle, Empire Oil & Refining Co., Tulsa (B. B. Mears, New York, alternate); and Victor H. Scales, American Petroleum Institute.

Crude Runs to Stills Increased During April by Mid-Continent Refiners

By D. H. STORMONT

Following a month of holding crude runs at a level far below any recorded during the past nine months, Mid-Continent refiners during April will increase their daily refining schedules by 36,565 bbls. according to estimates reported on the first of the month. Runs to stills during the month are estimated to be 515,325 bbls. daily, some 48,000 bbls. more than the total of a year ago. East Texas refiners, with an increase of 15,900 bbls., account for the greater part of the increase, while Oklahoma refiners will increase their runs by approximately 7,300 bbls. daily. All of the various districts showed some increase, but in the cases of Arkansas and the Texas Panhandle the amounts were negligible.

The total increase may not only be largely attributed to renewed activity in East Texas, but it also reflects a strengthening of the gasoline market throughout the Mid-Continent. With the market for heating oils, kerosene and tractor distillates in an excellent condition, larger refining companies in the Mid-Continent and many of the smaller ones are, and have been reducing their gasoline cuts in order to obtain a maximum amount of distillates. Thus, while keeping runs at a high level to meet the distillate demand refiners have been adding steadily to their already burdensome stocks of gasoline. However, according to A.P.I. figures stocks of gasoline held in the Mid-Continent have declined for the past three weeks.

East Texas

Resuming of operations in the Longview refinery of Danciger Refineries, Inc., account for 3,500 bbls. of the increase in East Texas. The company planned to have the 10,000-bbl. plant in operation soon after the first of the month. The East Texas Refining Co., which is now doubling the capacity of its Longview refinery, reported runs for the month to be 5,000 bbls. daily, or a decrease of 3,000 bbls.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1934	1935	1936
January	448,360	426,070	501,600
February	456,619	448,810	519,960
March	465,680	451,510	478,760
April	458,220	467,765	515,325
May	457,165	466,015	.....
June	459,908	485,015	.....
July	477,012	494,210	.....
August	501,750	508,960	.....
September	499,830	541,080	.....
October	500,755	523,620	.....
November	500,445	524,475	.....
December	440,735	511,025	.....

Operations by Refinery Districts

Daily crude runs

	April	March	Incr.
Arkansas	21,400	21,200	200
East Texas	62,005	46,100	15,905
Kansas	115,940	108,050	7,890
N. Central Texas	43,425	39,315	4,110
North Louisiana	42,350	41,375	975
Oklahoma	147,255	139,920	7,335
Southwest Texas	26,200	26,100	100
W. Tex.-Panhandle	56,750	56,700	50
Total	515,325	478,760	36,565

Simms company has sold its West Dallas plant to the Texas Railway Equipment Co. which will probably dismantle the plant. The refinery has been closed for some time. The list of plants in East Texas has been reduced to 73, due to several being dismantled or abandoned, and of this number approximately 20 will probably never be reopened.

In the Kansas and Oklahoma districts runs are being increased by 7,900 and 7,300 bbls. daily, respectively, to a total of 115,940 and 147,255 bbls. daily. Phillips Petroleum Co., Shell Petroleum Corp., and Socony-Vacuum Oil Co., Inc., all show substantial increases. Chase Refining Co., Chase, is the successor to the Western Refining Co., and plans to start operating on or about April 10 at 800 bbls. per day. In Oklahoma, Continental Oil Co., Empire Oil & Refining Co., and Phillips Petroleum Co. are increasing runs to stills. The Okmulgee plant of Barnsdall Refining Corp. remained closed at the first of the month. The Oklahoma City plant which was formerly operated by the Capitol Refining Co. is being dismantled and moved to Lawton, Okla. Sterling Products Co., of the latter city, has purchased the plant and plan to reerect the plant into a 1,000-bbl. refinery in Lawton.

North Louisiana

North Louisiana presents a scene of varied aspect with some refiners increasing their daily runs and others decreasing, the total for the district being approximately 1,000 bbls. daily higher. Atlas Pipe Line Co., the former Spartan Refining Co., is increasing runs by 2,500 bbls. Louisiana Oil Refining Co. is likewise increasing daily runs. The latter company is now rebuilding the grease plant of its Bossier City refinery after it was destroyed by fire several months ago. Griswold Refineries is completing construction of a new skimming plant in the Rodessa area. Another plant now under construction in the Rodessa field is that of the Panama Refining Co.

Little change was reported in the runs of Southwest and the Texas Panhandle. Gibson Oil Corp. is now operating its Magic City plant. Western Refining Co., headed by C. A. Middleton, has purchased the former Mertzon Refining Co. plant at Mertzon and plans to enlarge the capacity of the plant.

Estimated Daily Average Mid-Continent Refinery Crude Runs for April

EAST TEXAS

Company and location—	Daily capacity	Av. daily runs Apr.	Mar.
Acme Ref. Co., Gladewater	1,250	(*)	(*)
Adams Ref. Co., Big Sandy	1,000	(*)	(*)
Admiral Ref. Co., Kilgore	2,500	1,700	(*)
Artex Ref. Co., Arp	2,000	(*)	(*)
Bartlett Ref. Co., Kilgore	2,500	(*)	(*)
Beacon Oil & Ref. Co., Henderson	4,000	240	500
Blue Diamond Refining Co., Gladewater	1,500	(*)	(*)
Bradley Ref. Co., Kilgore	2,000	(*)	(*)
Cascade Ref. Co., Reeds Switch	3,000	1,150	1,200
Central Ref. Co., Gladewater	2,000	220	(*)
Century Refining Co., Friars Switch	2,500	(*)	(*)
Chief Ref. Co., Gladewater	2,000	1,370	800
Clay Refining Co., Arp	2,500	1,730	(*)
Danciger Refineries, Inc., Longview	10,000	3,500	(*)
Deason Ref. Co., Turnerstown	500	(*)	(*)
Dominant Ref. Co., Kilgore, No. 1	4,000	(*)	(*)
Dominant Ref. Co., Kilgore	2,000	(*)	(*)
East Texas Cracking Co., Camp Switch	4,200	(*)	(*)
East Texas Ref. Co., Longview	8,000	5,000	8,000
Gilliland Ref. Co., Gladewater	4,000	2,650	1,500
Gilliland Ref. Co., Overton	5,500	2,415	2,000
Gilmer Ref. Co., Gladewater	1,000	(*)	(*)
Godlin Ref. Co., Gladewater	500	(*)	(*)
Heath Ref. Co., Camp Switch	1,000	(*)	(*)
Holmes Ref. Co., Gladewater	1,500	(*)	(*)
Hub Oil Refining Co., Reeds Switch	3,000	(*)	(*)
Hurricane Pet. Corp., Overton	4,500	4,200	4,000
Johnson Ref. Co., No. 1, Kilgore	1,200	(*)	(*)
M. S. Johnson Ref. Co., Gladewater	1,250	(*)	(*)
Keystone Ref. Co., Gladewater	1,000	(*)	(*)
Kilgore Reclamation Co., Kilgore	2,000	(*)	(*)
Lake Ref. Co., Gladewater	2,500	1,580	(*)
La Petite Ref. Co., Joinerville	800	(*)	(*)
Lapren Ref. Co., Kilgore	2,500	(*)	(*)
London Topping & Ref. Co., Overton	1,000	(*)	(*)
Lotus Ref. Co., Gladewater	1,750	(*)	(*)
Master Pet. Co., Waco	1,000	(*)	(*)
Matthews Ref. Co., Gladewater	1,000	(*)	(*)
McKain Ref. Co., Gladewater	1,500	(*)	(*)
McMurray Ref. Co., Arp	4,000	1,250	(*)
Magnolia Pet. Co., Corsicana	5,000	4,000	4,000
National Refining Co., Camp Switch	1,000	(*)	(*)
North Texas Ref. Co., Gladewater	1,500	(*)	(*)
Ocean Ref. Co., Kilgore	2,300	1,830	(*)
Outdoor Ref. Co., Kilgore	900	(*)	(*)
Overton Ref. Co., Overton	3,000	(*)	(*)
Ozaco Ref. Co., Friars Switch	1,200	(*)	(*)
Panama Ref. Co., Kilgore	3,000	1,000	1,000
Pope Ref. Co., Gladewater	1,500	(*)	(*)
Premier Oil Ref. Co. of Texas, Greggton	4,000	3,000	2,400
Rusk Oil & Ref. Co., Overton	4,000	550	(*)
Shoreline Ref. Co., Kilgore	4,000	(*)	(*)
Sinclair Ref. Co., Camp Switch	3,500	2,000	2,000
Solvex Refineries, Inc., Gladewater	4,500	3,000	2,000
Southern Oil Ref. Co., Reeds Switch	2,000	1,000	1,000
Southport Ref. Co., Kilgore	5,000	1,650	3,000
Stag Ref. Co., Kilgore	1,200	(*)	(*)
Supreme Ref. Co., Gladewater	1,200	(*)	(*)
Swastika Ref. Co., Kilgore	3,000	250	300
Texas Co., Dallas	16,000	8,000	8,000
Texas Oil Products Co., Gladewater	3,000	2,370	1,500
Texas State Ref. Co., Kilgore	1,000	(*)	(*)
Trinity Ref. Co., Gladewater	6,000	2,180	1,300
Trio Ref. Co., Arp	2,500	850	1,600
Tyler Tex., Ref. Co., Tyler	15,000	930	(*)
Tower Refining Co., Overton	3,000	1,900	(*)
Union Ref. Co., Kilgore	3,000	(*)	(*)
Utah Ref. Co., Kilgore	3,000	(*)	(*)
Wabash Ref. Co., Gladewater	1,000	440	(*)
Wichita Ref. Co., Gladewater	1,000	(*)	(*)
Wilemon Ref. Co., Overton	1,000	(*)	(*)
Witeners Ref. Co., Gladewater	1,500	(*)	(*)
Total	210,750	62,005	46,100

*Shut down.

ARKANSAS

Company and location—	Daily capacity	Av. daily runs Apr.	Mar.
Berry Asphalt Co., Waterloo	2,000	1,200	1,000
Henry H. Cross Co., Smackover	4,000	4,000	4,000
Lion Oil Ref. Co., El Dorado	12,000	9,000	9,000
Macmillan Pet. Products Co., Norphlet	2,500	2,000	2,000
Ouachita Valley Ref. Co., El Dorado	2,500	(*)	(*)
Root Pet. Co., El Dorado	12,000	5,000	5,000
Simms Co., Smackover	3,000	(*)	(*)
Stephens Ref. Co., Stephens	750	200	200
Total	40,750	21,400	21,200

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. daily runs Apr.	Mar.
Barnsdall Oil Co., Wichita	4,000	3,000	3,000
Chase Ref. Co., Chase	1,000	800	400
Cusco Oil & Ref. Co., Chase	3,100	(*)	(*)
Derby Oil Co., Wichita	8,000	4,600	4,000
Dickey Ref. Co., McPherson	2,500	1,700	1,700
Eldorado Ref. Co., Eldorado	5,000	3,500	3,500
Falcon Ref. Co., Inc., Great Bend	800	500	550
Globe Oil & Ref. Co., McPherson	12,000	7,000	7,000

(Continued on Page 26)

Pipe Line Activity

Loma Novia Line

SAN ANTONIO, Tex., Apr. 6. — The 72-mile line being laid for the Crude Oil Pipe Line Co., of San Antonio, the first direct link between the Loma Novia field in Duval County, Texas, and tidewater at Corpus Christi harbor, is nearing completion. With ditching and welding crews moving eastward at a rate of 2 miles per day in the vicinity of Robstown, initial runs in the line are expected to begin early this month.

The new line will relieve the overcrowded condition of the two principal pipe line outlets to the Government Wells district. Rapid development of the Loma Novia and Seven Sisters fields during the past six months has necessitated the addition of extra pumping stations to the Humble and Magnolia lines serving the area. Although producing wells of Loma Novia are prorated to 35 bbls. per day by the Texas Railroad Commission, active drilling in the field resulted in the completion of 64 producers during March. The April proration schedule for the field places the total number of wells at 336, and raises the field allowable nearly 2,000 bbls. to 11,970 bbls. per day.

The first leg of the line from Loma Novia to San Diego, 23 miles distant, was completed February 19. At that point, storage was erected and an 11-car loading rack was built. Upon completion of that section, crude was immediately started through the line, being shipped by tank-car to Corpus Christi and other points pending the completion of the entire project.

Contract for laying the line was let to the N. A. Saigh Co., of San Antonio. Youngstown seamless, 5½-inch O.D. pipe was furnished by the Continental Supply Co. It was delivered in 40-foot random lengths at San Diego and intervening railway points along the right of way. The line is of electric welded design throughout. It is buried with 24-inch coverage and a heavy coat of protective enamel is being applied to combat corrosion. No major difficulties have been encountered in the laying of the line, as the terrain, with the exception of a few miles in Duval County, is perfectly level, and the soil loamy. Principal hindrance to operations occurs during rainy weather which renders movement in the Lower Coastal Region practically impossible on other than improved highways.

Two pumping stations incorporated in the line at the field and at San Diego will give it a capacity of from 6,000 to 7,000 bbls. per day. The stations are identical, each equipped with two diesel-driven, belt-connected Fairbanks-Morse 5x10 inch pumps. At San Diego where 30,000 bbls. of storage and the loading rack have been erected, the manifold system at the station was designed to allow for all needed flexibility of oil movement.

At the terminus of the line in Corpus Christi, a 4.7-acre tract has been acquired and erection of two 80,000-bbl. tanks is in progress by the Wyatt Metal & Boiler Works, of Houston. The terminal is near the turning basin of the harbor, due north of a bulk station owned by Texas Co. A 14-inch loading line leading to the new oil dock now being constructed for the Nueces County Navigation Commission, will facilitate a loading capacity of 4,000 to 5,000 bbls. per hour.

The terminal property is incorporated under the name of the Crude Oil Terminal Co. Crude delivered through the line will be handled at Corpus Christi by the Crude Oil Marketing & Trading Co. The three associated companies are headed by E. L. Buckley, H. A. Ellis and Curg Lucy, all of San Antonio.

Upon the completion of line, the Duval Pipe Line Co., an affiliated firm, will take up the 4-inch line from the Government Wells district to a railroad loading rack at Benavides.

The Texas Pipe Line Co. is laying a short line from the Saxet Heights or Corpus Christi field to its terminal in Corpus Christi Harbor.

American Liberty Line

FORT WORTH, Tex., Apr. 6.—The American Liberty Pipe Line Co. expects to have its line from the East Texas field to its Norsworthy Terminal at Houston, completed and in operation soon after the middle of the month. It will be the first independently owned line out of the field to connect with a Gulf Coast terminal. It is a welded 8-inch line with three pump stations.

Logan County Connection

A 6-inch pipe line is being laid to Stanolind Oil & Gas Co. and others No. 1-A Gragg (Bird), SW SW NE section 30-18-4w, which opened a new pool west of Lovell in Logan County, Oklahoma, by Eason Oil Co. The line will connect with Eason's Tonkawa system in the Lovell area, about 1 mile east. The Eason company has an interest in the new producer.

Grand Rapids Gas Line

MUSKEGON, Mich., Apr. 6.—The Grand Rapids city commission has approved plans of the Grand Rapids Gas Light Co. for a pipe line as well as proposed rates for a similar system to serve the Furniture City, which would require even more than the Lansing service. A joint request for permission to lay the line was presented to the state public utilities commission last week by Ralph E. Davis, Pittsburgh, Pa., engineer employed as consultant by the city, and E. L. Fischer, United Light & Power engineer for the gas company.

Union Sulphur Oil Line

LAKE CHARLES, La., Apr. 6.—Construction of a pipe line for Union Sulphur Co., linking the Old Town Bay field with the firm's Rose Bluff tank farm downstream, will be started within three weeks, it was announced. The line will be 14½ miles in length, and will cost $125,000. Contract was expected to be awarded soon.

The line will be of 6-inch pipe, of welded construction. Three stream crossings will be required, as the line will traverse Calcasieu River, West Fork, curving southward and passing west of West Lake and crossing Bayou D'Inde west of the Lake Charles field at Lockport.

Since Union Sulphur opened the Old Town pool the oil has been barged to the Rose Bluff terminal for shipment by tankers. Union Sulphur representatives have practically completed the purchasing of right of way, surveying crews are also nearing the end of their task. The firm has pipe lines connecting the sulfur mines and Lake Charles fields with the Rose Bluff terminal.

Announcement of the proposed pipe line followed the completion of two Continental Oil Co. lines to Lake Charles from the Tepetate field, one of 8-inch pipe for transporting gas to the Mathieson Alkali Works chemical plant here.

Refinery Projects

Magnolia Operating New Unit

A combination cracking unit, one of the largest yet to be constructed in the United States, has entered commercial operation at the Beaumont, Tex., refinery of the Magnolia Petroleum Co. Simultaneous with the completion of the Magnolia installation active construction is under way on similar combination cracking units for Pan American Petroleum & Transport Corp. at Texas City and for Atlantic Refining Co. at Atreco. With the completion of the last two there will be a total of four such combination units in the Gulf Coast region, all operating within a radius of 35 miles and with crude capacities averaging 30,000 bbls. per day.

The Magnolia company's unit, which has a rated crude capacity of 32,600 bbls. per day, has been under construction for the past several months. Generally similar in type to other combination cracking units recently erected by the M. W. Kellogg Co., the installation is equipped for complete processing of the crude within a self-contained system. Two furnaces are employed and the operation involves viscosity breaking, high temperature cracking and stabilization, as well as the initial stripping of the crude, and vacuum flashing of tar. The unit will be operated under license from Gasoline Products Co., Inc., It is understood to embody recent processing improvements, resulting from extensive research and development.

Southport Cracking Unit

DALLAS, Tex., Apr. 6.—Construction of the 5,000-bbl. topped crude cracking unit being built for Southport Petroleum Co. at Texas City is well under way. The plant will operate under the Donnelly Process Corp. license. Although all the equipment has not been delivered, the plant is expected to be in operation in approximately 70 days. Mid-Continent Engineering Corp. of Dallas is designing and furnishing the consulting engineering services.

Expansion at Paulsboro

NEW YORK, Apr. 6.—The Socony-Vacuum Oil Co. has let a contract for the construction of a 3,000-bbl. benzol-acetone dewaxing unit at its Paulsboro, N. J., refinery, to the Lummus Co.

NEW OIL DOCK FOR CORPUS CHRISTI, TEX.

SAN ANTONIO, Tex., Apr. 6.—Construction of a new oil dock in Corpus Christi harbor has begun. Pile driver of Dodds and Wedegartner of San Benito, Tex., contractors for its construction, is shown driving piling for the runway. The oil tanker at the other dock is the Danish vessel, Caroline Maersk, one of the largest tankers to enter the harbor.

Natural Gas News

Hearing on Lea Bill

WASHINGTON, D. C., Apr. 6.—Hearings on the proposed natural gas regulation law, introduced by Representative Lea, were opened April 2 before a special subcommittee of the house Committee on Interstate and Foreign Commerce. Dozier DeVane, Federal Power Commission solicitor, appeared to explain the bill, which he said does not provide any control of production, regulation of rates paid to producers, or rate fixing paid by consumers, but applies merely to interstate operations of the industry, being aimed mainly at control of "city-gate" rates, and incidental operations of interstate pipe lines.

In answer to questions why some means was not included to control wastage of gas, Mr. DeVane did not think such action could be constitutionally taken, although if there was a necessity for this action some means could probably be found. Interstate compacts, aimed at the prevention of waste, might prove the means whereby this could be accomplished.

Col. W. T. Chantland, Federal Trade Commission attorney, who conducted that commission's investigation of the gas industry, was also asked why no production control provisions were included in the bill. He, too, proposed this be taken care of by the interstate compact method, rather than by direct action of the federal government, which action would be of questionable legality.

He explained that the bill is not a price-fixing measure, being designed merely to correct some activities turned up by the commission's investigation.

Gas Measurement Course

The program for the Southwestern Gas Measurement Short Course at Norman, Okla., April 21, 22 and 23, follows:

Tuesday, April 21, 9:30 a.m.—General assembly. R. D. Turner, Skelly Oil Co., chairman meter school committee, presiding.

Address of welcome by Dr. William Bennett Bizzell, president, University of Oklahoma, introduced by C. A. Breitung, president, Oklahoma Utilities Association.

Introduction of meter school committee, R. D. Turner, Skelly Oil Co.

"Natural Gasoline Association and the Gas Measurement Short Course," W. F. Lowe, secretary, N.G.A.A.

"Natural Gas Department of American Gas Association and Gas Measurement Short Course," Capt. A. E. Higgins, secretary, Natural Gas Division, A.G.A.

Address, L. B. Denning, Sr., president, Lone Star Gas Co., and president, American Gas Association.

Report of Committee for Study of Practical Methods, Ray L. Rountree, chairman, United Gas Public Service Co.

Period I, 1 p.m.

"Functions of Field Meter Men," George Greiner, Phillips Petroleum Co.

"Problems of Elementary Gas Laws," E. F. Dawson, university faculty.

Period II, 2 p.m.

"Calculation of Orifice and Displacement Meter Charts," M. M. Farley, Panhandle Eastern Pipe Line Co.

"Field Testing of Large Capacity Displacement Meters," E. C. McAninch, Oklahoma Natural Gas Co.

Period III, 3 p.m.

"Well Capacities," E. M. Tignor, Cities Service Gas Co.

Wednesday, 9 a.m.—General assembly. R. D. Turner, presiding.

Period I, 1 p.m.

"Determination of Hydrogen Sulfide Content of Gases," Dr. F. V. L. Patton, Texas Railroad Commission.

"Problems of Wet Gas Measurement and Regulation," round table discussion, G. W. McCullough, Phillips Petroleum Co.; R. D. Hanley, Magnolia Petroleum Co.

Period II, 2 p.m.

"Care and Operation of Orifice Meters," K. I. Snyder, Arkansas Louisiana Gas Co.

Period III, 3 p.m.

"Meter Shop Practice," Pat Davis, San Antonio Public Service Co.

"Problems of Regulator Freezing," M. A. Hardie, Jr., Montana Power Gas Co.

Period IV, 4 p.m.

Inspection of laboratories. Fluid Meter Tests—A.S.M.E. Regulator Freezing Problems—sponsored by A.G.A.

Annual banquet, Wednesday evening, 6 o'clock, University Union ballroom.

Thursday, 9 a.m.—General assembly. R. D. Turner, presiding.

"Public Relations as It Pertains to the Meter Man," E. M. Meyers, Oklahoma Corporation Commission.

Address, J. F. Owens, president, Oklahoma Gas & Electric Co.

"Action of Carbohydrates in Natural Gas Lines," W. M. Deaton, U. S. Bureau of Mines.

Period I—1 p.m.

Determination of line losses. "High Pressure Lines," E. C. Chaney, Cities Service Gas Co. "Low Pressure Lines," John R. Bird, United Gas Public Service Co.

Period III, 3 p.m.

"Operation of Slide Rule and Gas Rule," H. V. Beck, university faculty.

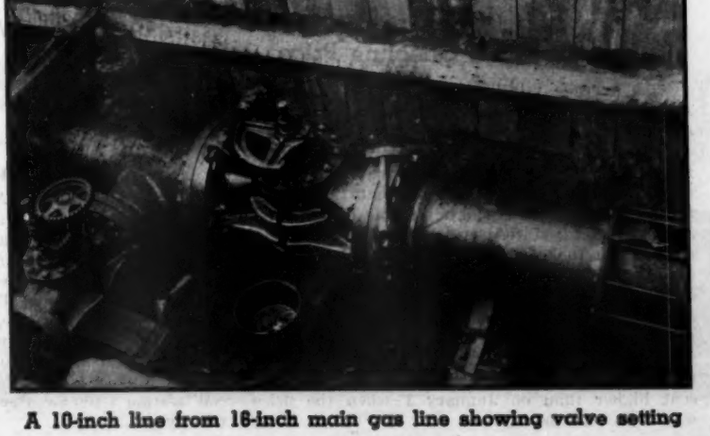
Northern Natural Line

Northern Natural Gas Co., Omaha, Neb., expects to begin construction of its 107-mile natural gas transmission pipe line on April 10. The line will extend from the gas field at Hugoton, Kans., to Mullinville, Kans., where it will tie into the company's main 26-inch carrier. The line is to consist of 20-inch electrically welded pipe and will cost $2,200,000.

Takes Over Michigan Line

MUSKEGON, Mich., Apr. 6.—Consumers Power Co. has taken over operations of a gathering line system in the tri-townships field of Mecosta and Montcalm Counties, central Michigan. The system was purchased recently from Petroleum Transportation Co. as the first step toward consolidation of services with Consumers' new $500,000 10-inch pipe line to Lansing nearly ready for operation. Service is to start within 15 days.

Herman L. Freuchtenicht, former production overseer and scout for the Frick-Reid Supply Co., has been placed in charge as Michigan gas field superintendent for the Consumers company. Offices will be maintained in Mount Pleasant. Consumers placed in effect a flat rate of 15 cents per 1,000 feet for gas at the well head. Lansing and 25 nearby communities expect to require upwards of 10,000,000 feet of gas daily, or about double the amount heretofore marketed in Michigan.



A 10-inch line from 16-inch main gas line showing valve setting

Tyler, Tex., Survey

FORT WORTH, Tex., Apr. 6.—The engineering firm of Hawley, Freese & Nichols of Fort Worth has been awarded the contract for a survey of the Tyler gas distribution system, relative to plans of the city to negotiate with the gas company for a rate reduction and possibility the city might purchase that company's distribution system.

Natural Gasoline

California Production Declines

Natural gasoline production in California during February decreased 2,000 bbls. daily to a daily total of 38,000 bbls. This reduction was probably incidental to the crude petroleum decrease which took place as a result of the new curtailment plan. Total production during the month amounted to 1,100,000 bbls. as compared to 1,246,000 bbls. in January, according to the Bureau of Mines report. Refinery utilization dropped 3,000 bbls. daily to 27,000 bbls. daily and shipments increased 1,000 bbls. daily to 2,000 bbls. daily. Stocks increased 6,000 bbls. daily, or a total of 174,000 bbls., and amounted to 1,950,000 bbls. at the close of the month. Stocks at the end of the month were 745,000 bbls. under those of a year ago when total stocks amounted to 2,695,000 bbls. There were 80 plants in operation during the month with a daily operating capacity of 2,094,950,000 feet, the two being equal to those of the previous month.

Daily average production of liquefied petroleum gases decreased from 1,311 bbls. to 1,093 bbls., of which 214 bbls. was produced at refineries in February. Daily average sales increased from 1,071 bbls. to 1,182 bbls.

Still gas production during February amounted to 1,591,182,000 feet, equivalent on a B.t.u. basis to 429,792 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS
FEBRUARY, 1936

Field—	Gas treated (M. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	57,088	105,885
Kettleman Hills	11,195,332	14,362,248
Midway-Sunset	1,028,935	2,026,995
Mountain View	1,436,214	1,167,312
Miscellaneous	2,118,336	1,271,622
Coastal Region:		
Elwood	465,282	884,015
Rincon	69,275	120,954
Santa Maria	119,609	214,466
Ventura Avenue	3,424,740	4,019,378
Miscellaneous	269,321	258,543
Los Angeles Basin:		
Brea-Olinda and Coyote	486,713	1,344,189
Dominguez	1,305,261	1,724,002
Huntington Beach	1,919,807	3,650,746
Inglewood	185,479	274,296
Long Beach	2,002,820	7,090,092
Playa del Rey	486,295	1,246,391
Richfield	211,414	351,327
Rosecrans	604,395	672,212
Santa Fe Springs	2,179,473	4,334,074
Seal Beach	459,538	642,417
Torrance	98,562	207,716
Miscellaneous	78,809	144,731
Total (all fields)	30,202,699	46,214,592

DISTRIBUTION
(Gallons)

Stocks beginning of month	2,986,736	
Production during month	46,214,592	
Delivered to refineries		44,510,078
Delivered to jobbers, brokers or blenders		1,470,337
Blended at plants for production of motor fuel		7,422
Losses		31,551
Stocks end of month		2,882,040
Total	49,201,328	49,201,328

Liquefied petroleum gas production ..... 1,070,944 gals. — 25,499 bbls.
Motor fuel produced ..... 10,224 gals. — 243 bbls.

Estimated Crude Runs for April

(Continued from Page 23)

KANSAS (Continued)

Company and location—	Daily capacity	Av. daily runs Apr.	Mar.
Kanotex Ref. Co., Arkansas City	12,000	5,000	5,000
Kansas Gasoline Co., Winfield	150	25	40
Kreuger Ref. Co., Laton	150	50	50
National Ref. Co., Coffeyville	8,000	5,000	5,000
Pet. Products Co., Chanute	1,000	800	800
Phillips Pet. Co., Kansas City	18,000	12,165	8,710
Russell Ref. Co., Russell	2,500	800	800
Shell Petroleum Corp., Arkansas City	20,000	18,000	17,000
Sinclair Ref. Co., Coffeyville	20,000	7,000	7,000
Sinclair Ref. Co., Argentine	11,000	7,000	7,000
Skelly Oil Co., Eldorado	23,000	17,000	17,000
Socony-Vacuum Oil Co., Inc., Augusta	16,000	15,000	13,000
Standard Oil Co. (Indiana), Neodesha	20,000	4,500	4,500
Vickers Pet. Co., Potwin	3,500	2,500	2,000
Total	183,700	115,940	105,050

*Shut down.

NORTH LOUISIANA

Acme Ref. Co., Monroe	100	50	50
Atlas Pipe Line Co., Shreveport	12,500	10,000	7,500
Bayou State Oil Corp., Hosston	750	350	375
Griswold Refineries, Shreveport	2,500	1,500	2,000
Griswold Refineries, Sandra	5,000	2,000	5,000
Louisiana Oil Ref. Co., Bossier City	23,000	21,000	20,000
Pelican Ref. Co., Converse	100	50	50
Rodessa Oil & Ref. Corp., Cedar Grove	7,500	3,500	3,500
Shoreline Oil Co., Lewis	1,000	600	600
Stanolind Oil & Gas Co., Superior	4,500	2,000	2,000
Texas Co., Shreveport	7,000	(*)	(*)
Total	63,950	41,350	41,375

*Shut down.

OKLAHOMA

Anderson-Prichard Oil Corp., Cyril	6,000	4,500	4,500
Associated Pet. Corp., Allen	5,000	(*)	(*)
Barnsdall Oil Co., Barnsdall	6,000	3,500	3,500
Barnsdall Oil Co., Okmulgee	10,000	(*)	(*)
Bell Oil & Gas Co., Grandfield	4,500	3,000	3,000
Black Gold Ref. Co., Oklahoma City	2,000	1,500	1,500
Century Pet. Corp., Oklahoma City	2,500	(*)	(*)
Champlin Ref. Co., Enid	15,000	6,000	6,000
Continental Oil Co., Ponca City	30,000	22,500	18,000
Crescent Ref. Co., Holdenville	1,000	(*)	(*)
Cushing Ref. & Gasoline Co., Blackwell	1,700	1,500	1,500
Cushing Ref. & Gasoline Co., Cushing	6,200	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,700	2,700
Empire Oil & Ref. Co., Okmulgee	4,000	2,500	2,200
Empire Oil & Ref. Co., Ponca City	12,000	9,000	7,000
Globe Oil & Ref. Co., Blackwell	3,000	3,000	3,000
Government Ref. Co., No. 1, Oklahoma City	1,000	(*)	(*)
Government Ref. Co., No. 2, Oklahoma City	2,500	(*)	(*)
Government Ref. Co., No. 3, Seminole	300	(*)	(*)
Hanger Ref. Co., Oklahoma City	1,000	(*)	(*)
Johnson Oil Ref. Co., Cleveland	6,000	4,000	4,000
Marathon Oil Co., Bristow	5,000	2,665	2,500
Mid-Continent Pet. Corp., West Tulsa	40,000	18,000	18,000
Monarch Ref. Co., Oklahoma City	2,000	900	900
Omar Ref. Co., Garber	5,000	2,500	2,000
Paramount Ref. Co., Oklahoma City	2,000	700	700
Peppers Gasoline Co., Oklahoma City	500	200	200
Phillips Pet. Co., Okmulgee	6,000	4,165	2,900
Pure Oil Co., Muskogee	10,000	8,665	8,500
Rock Island Ref. Co., Beckett	6,000	2,500	2,500
Sinclair Ref. Co., Sand Springs	8,000	2,000	3,400
Sinclair Ref. Co., West Tulsa	6,000	(*)	(*)
Sooner State Ref. Co., Oklahoma City	700	400	400
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co., Allen	7,000	3,100	2,500
Texas Co., West Tulsa	15,000	11,000	11,000
Tide Water Oil Co., Drumright	15,000	10,000	10,000
Triangle Prod. & Ref. Co., Oklahoma City	1,500	1,100	1,100
Wilcox Oil & Gas Co., Bristow	6,000	2,165	2,420
Wirt Franklin Pet. Corp., Ardmore	4,000	(*)	(*)
Yale Oil Corp., Yale	2,000	(*)	(*)
Total	295,900	147,255	139,920

*Shut down.

NORTH CENTRAL TEXAS

Allstate Ref. Co., Thrall	2,500	(*)	(*)
Baird Ref. Co., Baird	1,500	1,300	1,300
Canyon Oil & Gas Co., Inc., Cisco	500	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	3,900	4,000
Empire Oil & Refining Co., Gainesville	5,000	(*)	(*)
Exchange Pet. Corp., Albany	800	350	300
Falls Ref. Co., Wichita Falls	2,000	300	300
Gratex Ref. Co., Graham	300	195	215
Gulf Ref. Co., Fort Worth	10,000	5,000	4,000
Gulf Ref. Co., Sweetwater	7,500	4,500	4,500
Haskell Oil Ref. Co., Breckenridge	200	(*)	(*)
Hightower Oil & Ref. Corp., Brownwood	750	200	200
Hill Ref. Co., Ballinger	80	50	50
Imperial Gas Corp., Fort Worth	1,200	300	300
Jacksboro Ref. Co., Jacksboro	50	50	50
LaSalle Pet. Co., Burkburnett	3,500	750	750
Magnolia Pet. Co., Fort Worth, No. 1	12,000	5,000	5,000
Marathon Oil Co., Fort Worth	5,000	4,330	3,900
Moutray Oil Co., Hawley	1,200	760	1,000
Muenster Ref. Co., Abilene	300	(*)	(*)
New Deal Ref. Co., Abilene	300	(*)	(*)
Nolting Ref. Co., Sweetwater	1,000	(*)	(*)
Norgold Ref. Co., West Olney	400	200	200
Olney Oil & Ref. Co., North Olney	3,500	1,800	1,800
Omega Ref. Co., Brownwood	200	(*)	(*)
Onyx Refining Corp., Hawley	1,200	900	(*)
Panhandle Ref. Co., Wichita Falls	4,000	2,200	2,000
Panhandle Ref. Co., Leuders	600	500	500
Pilot Point Ref. Co., Pilot Point	500	100	100
Sinclair Ref. Co., Fort Worth	5,000	3,000	3,000
Southtex Ref. Co., Trent	250	(*)	(*)
Southland Ref. Co., Megargel	500	200	200
Southland Ref. Co., Olney	1,000	(*)	(*)
Starlight Ref. Co., Inc., Ballinger	500	400	400
Superior Ref. Co., Tiffin	800	(*)	(*)
Taylor Ref. Co., Taylor	6,000	800	800
Taxman Ref. Co., Wichita Falls	3,500	2,500	(*)
Texas Pacific Coal & Oil Co., Caddo	1,000	700	700
Tucker Ref. Co., Wichita Falls	250	150	150
Waggoner Ref. Co., Electric	6,000	3,000	3,500
Total	97,680	43,425	39,315

*Shut down.

SOUTHWEST TEXAS

Amsco Ref. Co., Mirando City	4,500	3,000	2,750
Bennett Ref. Co., San Antonio	500	500	500
Bennett Ref. Co., Bruni	900	600	600
Capitol Ref. Co., Luling	2,500	(*)	(*)
Chapa Ref. Co., Laredo	100	(*)	(*)
Citizens Ref. Co., Luling	200	50	50
Humble Oil & Ref. Co., Ingleside	15,000	8,500	8,500
Humble Oil & Ref. Co., San Antonio	5,000	3,000	3,000
Magnolia Pet. Co., Luling	7,000	4,000	4,000
Midway Oil & Ref. Co., Pettus	1,000	500	500
Pettus Ref. Co., Pettus	1,000	700	900
Pettus Ref. Co., Mathis	1,000	500	500
Pioneer Oil & Ref. Co., Somerset	2,000	1,300	1,250
Rado Ref. & Prod. Co., McAllen	500	200	200
Texas Co., San Antonio	3,000	2,500	2,500
Texas Pet. Prod. Co., Somerset	1,500	250	250
Valley Ref. Co., Harlington	1,000	600	600
Total	46,700	26,200	26,100

*Shut down.

WEST TEXAS AND PANHANDLE

Active Oil Co., Arno	1,500	(*)	(*)
Aero Ref. Co., Pecos	220	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Concho Ref. Co., San Angelo	250	100	100
Cosden Oil Co., Big Spring	10,000	8,000	8,000
Danciger Refs., Inc., Pampa	6,500	5,000	5,000
Gibson Oil Corp., Magic City	250	100	(*)
Howard County Ref. Co., Big Spring	2,500	600	600
McNutt Ref. Co., El Paso	2,000	750	750
Panhandle Ref. Co., Kings Mill	2,000	1,500	1,500
Paramount Pet. Co., San Angelo	2,000	(*)	(*)
Phillips Pet. Co., Borger	50,000	18,000	17,400
Shamrock Oil & Gas Corp., Sunray	2,500	2,000	2,000
Shamrock Oil & Gas Corp., Meldavis	1,500	1,500	1,500
Sinclair Ref. Co., El Paso	4,000	(*)	(*)
Standard Oil Co. of Texas, El Paso	14,000	6,500	7,100
Texas Co., El Paso	2,000	1,000	1,000
Texas Co., Amarillo	4,000	3,000	3,000
West Texas Ref. Co., Pecos City	6,000	(*)	(*)
Western Ref. Co., Mertzon	100	(*)	50
Western Ref. Co., Baldridge	1,000	(*)	(*)
Wickett Pet. Co., Wickett	2,500	600	600
Total	127,420	56,750	56,700

*Shut down.

Average Retail Gasoline Price

The average retail price of middle octane or regular grade gasoline declined during the month of March and on April 1 was 13.92 cents a gallon as compared with 14.22 cents per gallon on the first of March. This average price is based on pump prices in 50 cities throughout the United States and is exclusive of all forms of taxes including federal, state, county and city taxes. The decrease in the composite prices may be contributed for the most part to great reductions throughout the Pacific Coast area. However, the April 1, 1936, price was the highest recorded at this time since 1930, being .64 cent higher than that recorded at that time in 1935. Although the April 1 price was a decrease from that on March 1, it was .22 cent higher than on January 1 when the price was 13.70 cents per gallon.

Nebraska Receiving Attention of 3 Major Oil Companies

Nebraska may be the next state to be given a considerable exploratory drilling. The Magnolia Petroleum Co., The Texas Co. and the Gulf Oil Corp. have gone into that state, leasing in a big way. The Magnolia owns 250,000 acres of checkerboarded leases in northwestern Nebraska within the counties of Sheridan, Garden, Grant, Cherry and Arthur, which cover an area of over 10,000 square miles, and the three companies named have checkerboarded parts of Hayes, Frontier, Gosper, Red Wing, Furness and Harlan Counties in the south central part of the state, the last three counties named being north of and adjoining Norton, Decatur and Phillips Counties in Kansas. The Magnolia purchased its 250,000 acres in the northwestern part of the state from Byrd & Frost of Tyler, Tex. Nebraska has received a considerable number of scattered tests for oil, none of which found oil in commercial quantity and most of which were absolutely dry.

A recent check of operations in Nebraska disclosed the following tests: C. W. Kelley and others No. 1 Red Willow Bauer, SE SW SW section 2-2n-29w, in Red Willow County, had a hole full of water at 1,170-80 feet and was shut down at 1,238 feet.

Turmac Oil Co. No. 1 Frontier, C NE SE section 10-6n-30w, in Frontier County, was spudded and shut down.

Chase Petroleum Co. No. 1 Chase Ingold, C NE section 24-6-38w, in Chase County, was shut down at 4,611 feet.

J. S. Norton No. 1 Horton, SW NE section 5-1n-15e, in the southeastern part of the state in Richardson County, was moving in machine; and Rhoden & Urish had standard rig up for No. 1 Sporer, SE cor. section 8-11n-13e, in Cass County.

Texas Spacing Law Case Is to Be Again Appealed

AUSTIN, Tex., Apr. 6.—The trial of the Brown vs. Humble case in the district court of Travis County, in which the jury found for Brown, starts the case back to the Supreme Court of Texas and probably to the Supreme Court of the United States, which may take two years.

The case, involving the Railroad Commission's Rule 37 on spacing wells, had previously been before the Supreme Court of Texas on an application of Humble Oil & Refining Co. to restrain production from a well drilled by C. H. Brown on one and one-half acres of a three-acre tract in Gregg County. The Supreme Court granted a temporary injunction against Brown to restrain him from producing oil from the well pending a hearing on the case upon its merits.

In this trial in district court the jury found Brown was entitled to a second well on his three-acre tract. If the case is carried to the Supreme Court of Texas, it will come up as a new case. The previous ruling of the Supreme Court, which acreage advocates quoted for authority in demanding the Railroad Commission institute proration with acreage as a factor in Texas fields, was on a plea for a temporary injunction, and no decision on a temporary order is considered permanent.

Canadian Western Builds

CALGARY, Alberta, Apr. 6.—Canadian Western Natural Gas, Light, Heat & Power Co. is constructing a $12,000 brick and concrete addition to its garage building.

New Michigan Field

MUSKEGON, Mich., Apr. 6.—A new southeastern Michigan oil field was opened today by A. V. Oil & Gas Co. No. 1 Frank Roe, brought in with shot for 10 bbls. an hour from Trenton limestone about 2,300 feet deep. Test is the first of several to be drilled in Dundee Township, Monroe County, Township 6s, Range 6e, near village of Deerfield. The Crystal field was extended a half mile east by a 50-bbl. Dundee well brought in by McClanahan Oil Co. on Honderich lease, NW NW NW section 1-10n-5w, Crystal Township, Montcalm County.

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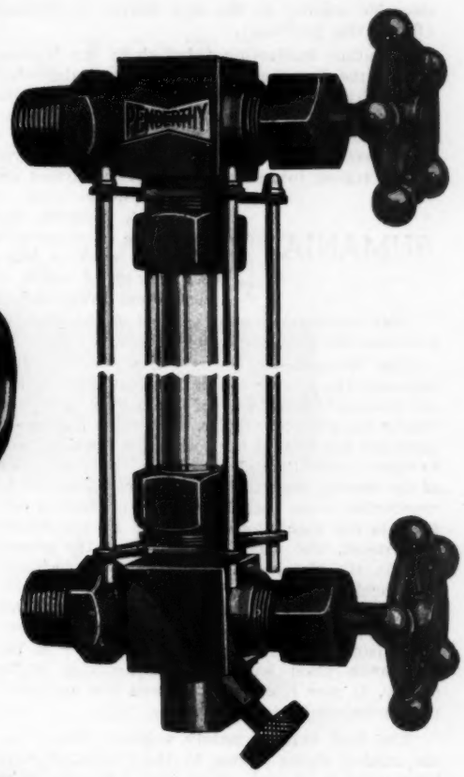

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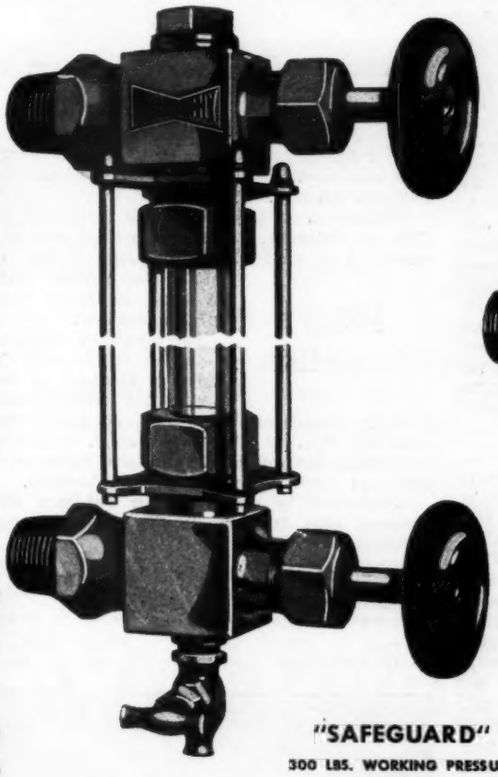

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Oil News from Foreign Lands

New District of Buscani Active, in Rumanian Plains

By ION STIESCU

The past year in Rumania has signalled considerable activity in the new district of Bucsani (Dambovita province).

A rather interesting point about the Bucsani field is the fact that this is the first real production activity in the plains, away from the foothills of the Carpathian Mountain Range. It is hoped that Bucsani will prove to be the center of a pretty extensive productive area. At the moment in this region, intensive work is being carried out over the whole area of Bucsani, Viforata and Teis, while a certain amount of work is being done further north at Doicesti and Dragamiresti.

RUMANIA

This anticlinal lies to the west of the Prahova province, the original oil region of Rumania.

The Rumanian government is treating very seriously the matter of the Bucsani district, and the contingent possibility of developing oil production in the plains generally. In fact the mining department has obliged the companies working there to form a committee of control under the direction of the mining department. This committee will be responsible to see that drilling and production conform to the regulations laid down by the mining department. The very level nature of the ground here in the plain, of course, has made ordinary geological deductions difficult. Therefore, assistance was called in from the United States, and, with the help of geophysicists from over the water, the existence of petroleum bearing strata in the Dambovita plain has been demonstrated pretty clearly. It now remains to be seen how extensive this anticlinal is.

The land here is mainly peasant owned, i.e., the mining rights belong to the Crown. A very large number of applications have been put in by the oil producing companies for perimeters (exploration areas). They are generally accorded for areas up to 10 square kilometers. Judging from the number of applications put in from the various companies, it would appear that very interesting geophysical research work has been carried out over a large area, but it is presumed that a considerable part of the area will be but poorly productive.

It is interesting that as a result of these geophysical researches carried out in the plain of the Dambovita province, some 2,262 acres have been declared petroleum bearing, and about half of this area is still free for would-be concessionaires.

About 55 per cent of the total oil production of Rumania came from the Dambovita province in 1935.

In the old oil fields, viz., in the Prahova province, work continues intensively only over the Boldesti-Scaeni-Harsa area, but this is a district for wealthy concerns, for drilling has invariably to be carried more than 1½ miles down.

A little further afield at Chitorani, Creditul Minier drilled last year the deepest well in Europe. It went down to about 11,089 feet.

In the Aricesti district last year, drilling activity was much reduced, results having proved extremely disappointing. The production from this field was only about 220,000 tons whilst some 42,650 feet of drilling was done.

The old producing districts, Bustenari, Chiciura, Runcu, Baicoi, Campina, etc., are dying a natural death. In the Moreni district there is a limited activity at Pisceri.

An interesting phase of the oil industry in Rumania is the work of the National Gas Metan Co., in Transylvania, where large quantities of natural gas are being produced. At present this company is at work in two deep wells, prospecting for oil, but although they have reached several rich sources of gas the desired crude has not been found.

The following few figures show the relative activities of the leading producing companies here during the past year:

	Production in tons	Feet drilled
Astra Romana (Royal Dutch-Shell)	1,736,345	213,320
Steaua Romana (Romano-Franco-British)	1,365,316	165,424
Concordia (Belgian)	1,229,339	175,877
Unirea (British)	1,004,829	174,427
Romano Americana (Standard of New Jersey)	672,612	36,405
Creditul Minier (Rumanian)	570,846	90,781
Prahova (Italian)	487,227	54,888
Colombia (French)	436,772	49,541
I.R.D.P. (Rumanian)	137,792	12,372
Dacia-Starnaphta (British)	117,797	22,061

February Crude Production in Peru and Colombia

Crude oil production in Peru in February, 1936, totaled 1,293,627 bbls., a daily average of 44,607 bbls., compared with 1,377,006 bbls., or 44,420 bbls. daily, in January.

Production of the International Petroleum Co., Ltd., in Colombia, for the month of February amounted to 1,475,403 bbls., a daily average of 50,875 bbls., against 1,611,618 bbls., or 51,987 bbls. daily, in January.

PERU
COLOMBIA

The company's combined production in Peru and Colombia in February of this year totaled 2,602,213 bbls. a daily average of 89,731 bbls., compared with 2,247,204 bbls., or 80,256 bbls. daily, in February, 1935. The company is the sole producer of marketed crude oil production in Colombia.

Production by companies for February and January, 1936, is shown in the following table, in barrels:

	Feb., 1936	Jan., 1936	First 2 mos., 1936
International Pet., Ltd.	1,126,810	1,193,214	2,320,024
Lobitos Oilfields, Ltd., (estimated)	166,817	183,792	350,609
Total	1,293,627	1,377,006	2,670,633
Daily average	44,607	44,420	44,510

Changes in England's Sources of Oil Supply Noted

An interesting table showing the marked changes within recent years in sources from which the United Kingdom has been obtaining its crude petroleum and petroleum products, has been compiled by the Petroleum Times of London. The largest supplier in 1935 was the Dutch West Indies, which contributed 30.7 per cent of the total imports. These two small islands contributed more than twice as much as the United States which accounted for only 10.1 per cent. In 1929 the percentages were practically reversed when the United States contributed 34 per cent of the imports into the United Kingdom and the Dutch West Indies 12.2 per cent.

UNITED KINGDOM

The following table shows British imports of crude and refined oils by consigning countries, with percentages, in 1935 and 1929:

	1935 Imperial gallons	1935 Per cent	1929 Imperial gallons	1929 Per cent
Dutch West Indies	860,960,000	30.7	268,153,000	12.2
Iran	534,844,000	19.1	500,482,000	22.8
United States	283,704,000	10.1	752,803,000	34.0
Mexico	278,225,000	9.9	110,550,000	5.1
Rumania	153,705,000	5.4	72,185,000	3.3
Iraq	144,363,000	5.2	.....	...
Trinidad	104,965,000	3.7	97,699,000	4.5
Russia	79,983,000	2.8	202,185,000	9.2
All other	368,831,000	13.1	191,391,000	8.9
Total	2,808,583,000	100.0	2,195,359,000	100.0

While Rumania was by far a more important factor in 1935 than in 1929, imports into the United Kingdom from that country have shown a substantial decline since 1932, when they amounted to 226,390,000 imperial gallons.

Reports are current in London that the London & Thameshaven Oil Wharves, Ltd., is planning a substantial increase in refining capacity with the installation of improved modern equipment. It is also rumored that the California Standard Oil Co., Ltd., recently incorporated in England as a subsidiary of the Standard Oil Co. of California, may enter the business in Great Britain.

German Crude Production; Italian "Gas" Substitute

The production of crude petroleum in Germany during January, 1936, is estimated at approximately 254,492 bbls., and for the year 1935 it was approximately 3,007,788 bbls. The daily average for January was 8,209 bbls. and for the year 1935 it was 8,240 bbls. Reports from Padua, Italy, state that Dr. Mario Zavka, chemist, has developed a substitute for gasoline by the use of anhydrous ammonia. A special carburetor, interchangeable with the regular one, has been used.

GERMANY
ITALY

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Louisiana's Lesson

The snappiest summary of the oil conservation situation yet heard is that of the governor-elect of Louisiana in the interview given to The Oil and Gas Journal: "We cannot get ours, unless they get theirs."

This is exactly true between the oil producing states, between the operators in every pool and throughout the industry generally.

Experience has shown that when attempt was made, either by overproduction or price cutting, to get "ours" regardless of "theirs" it produced conditions that eventually cost them all money.

Recognition of this economic fact by the incoming executive in Louisiana is important news to the oil industry. It means that Governor-elect Leche knows the necessity and advisability of regulating production and the penalty if regulation is set aside.

Assertions on either side of the state line as to what Texas should have or Louisiana should have should not be allowed to overshadow the main point which is orderly production that will not exceed the demand. Recalling Texas shipments across the boundary Louisiana may claim the same privilege, but each has a larger interest in avoiding injury to the industry from which both profit.

Louisiana has seen what happened next door in East Texas. It cannot want that experience duplicated in Rodessa. Regulation to be effective must be impartially enforced. Any breach in it must inevitably lead to accelerated drilling, dissipated gas energy and earlier exhaustion of the field besides weakening the market and lessening returns to all concerned.

An oil field like Rodessa is too valuable an asset to the state in which it is located to be squandered. It should be conserved to obtain the fullest benefit from it. Nothing is surer than that uneconomic development and production will affect its value.

Any assumption that Louisiana has the right to produce what it pleases must take into account the fact it is deflating its own resources when it tries to get "ours" without others getting "theirs." There is a profitable market for so much oil and no more. No state, or pool, no matter what its ability to produce, can expect to dominate.

It was realization of that fact that first led to conference and then to cooperation between the oil producing states which resulted in the interstate compact. Whether Louisiana joins the compact or not, the principle will still be there. Failure to apply it will not alter that.

In view of the federal interest shown in developments at Rodessa, Louisiana should be exceedingly careful to avoid creating conditions which would quickly be seized as an excuse for a renewal of the agitation for federal control of oil resources.

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Aerial map of the Tulip Creek and younger formations in Carter County, Oklahoma, showing outcrop of Tulip Creek formation
(Photo by Aero Exploration Co.)

Ardmore District Has Great Prospects For Future Oil Development

By C. W. TOMLINSON
Consultant, Ardmore, Oklahoma

Southern Oklahoma has greater possibilities of future oil development than any other equal area in the Mid-Continent region. The reasons for this are to be found in the fact that it is very different geologically from the rest of the Mid-Continent.

Travelers through the Arbuckle Mountain region recognize the fact that it is very different in scenic quality from the rest of the state. Although they are now dwarfed by the much higher ranges of the Rocky Mountains in the western United States, the Arbuckles in their prime were part of the great mountain system in North America—the Appalachian system.

In structural height they compare favorably with the greatest ranges of the world. In the Arbuckle Mountains the rock formations were raised as much as 40,000 feet higher than in the adjacent basins; although contemporaneous erosion doubtless prevented them from attaining a topographic height of more than a few thousand feet.

Even their present relief of some 700 feet from river to hilltop is the greatest local relief, and produces the most rugged local topography, to be found anywhere along that meridian from the Arctic to the Gulf. To those who love nature, the accessibility of these beauty spots has made Ardmore the happiest oil town in the Mid-Continent in which to live.

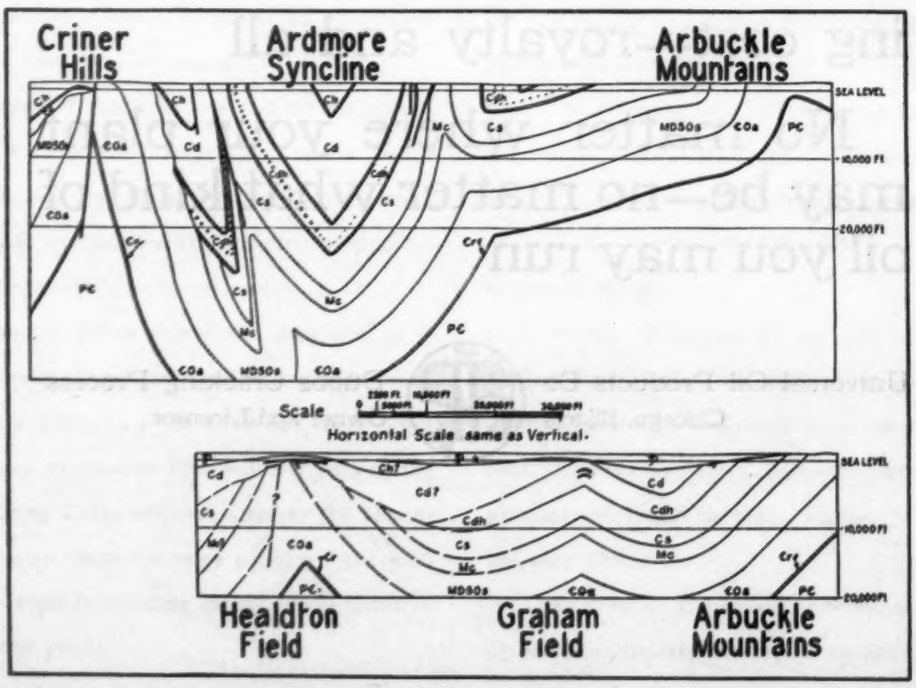
Three geologic factors account for the presence of so many untested possibilities for oil in southern Oklahoma: That is, for the failure of the oil industry up to this time to exhaust its possibilities as thoroughly as it has done in other parts of the Mid-Continent. These three are: (1) Great thicknesses of sedimentary rocks; (2) intense mountain folding, and (3) complex geologic history, producing great unconformities.

These factors combined in the following brief history of the district, beginning perhaps half a billion years ago: In early Cambrian time the region was part of a vast plain covering most of North America, a plain which had resulted from the deep erosion of a high continent adorned with great mountain ranges. The rocks underlying the plain were the granites, schists and other igneous and metamorphic rocks of the pre-Cambrian "basement." The sea flooded this plain, which gradually sank in the Ardmore region until it had received more than 10,000 feet of Cambrian and Ordovician sediments; muds and sands which hardened into limestone, shale and sandstone. Following the Ordovician came a long interval of relatively stable conditions, without either deep erosion or accumulation of additional thick sediments; until late Mississippian and Pennsylvanian time, when the region began sinking even more rapidly than before, and was buried under additional tremendous thicknesses of mud and sand.

Before this second load of sediment had reached as great a thickness as the earlier one, the region was crumpled by compression of the earth's crust, causing island mountain ranges to rise within the sea; but the basins alongside of these ranges continued to sink and receive more and more sediment. Finally some of the island ranges joined the adjacent basins in further sinking, and were buried beneath thousands of feet of later sediment.

Then, near or after the middle of the Pennsylvanian period, the whole region was again intensely crumpled, raising again the old mountain folds and producing new ones even more complex in structure. Before the end of the period, these too had been worn away to a surface even less rugged than the present one; and were partly or wholly buried under redbeds which still cover most of the mountain chain. There has been no further mountain building here through the last 50,000,000 years or so, but gradual erosion has removed part of the later cover of sediments; although the still more recent Cretaceous sands, shales and limestones of the present Gulf Coastal plain added a new cover over part of the region.

In all, some 30,000 feet of sediments were deposited in the Ardmore district. Whereas in northeastern Oklahoma, from Tulsa east, holes 4,000 feet or less in depth have reached granite, the granite basement is believed to lie about 40,000 feet deep at Ardmore. Small wonder that the possi-



Cross-section through Carter County, Okla., from Oklahoma Geological Survey bulletin

Legend for cross-sections: Ch—Hoxbar formation; Cd—Deese formation; Cdh—Dornick Hills formation; Cs—Springer formation; Mc—Caney shale; MDSOs—Sycamore limestone, Woodford chert, Hunton formation, Viola limestone and Simpson formation; COa—Arbuckle limestone; Cr—Reagan sandstone; PC—Pre-Cambrian

bilities of oil accumulation in the overlying sediments have not been fully tested!

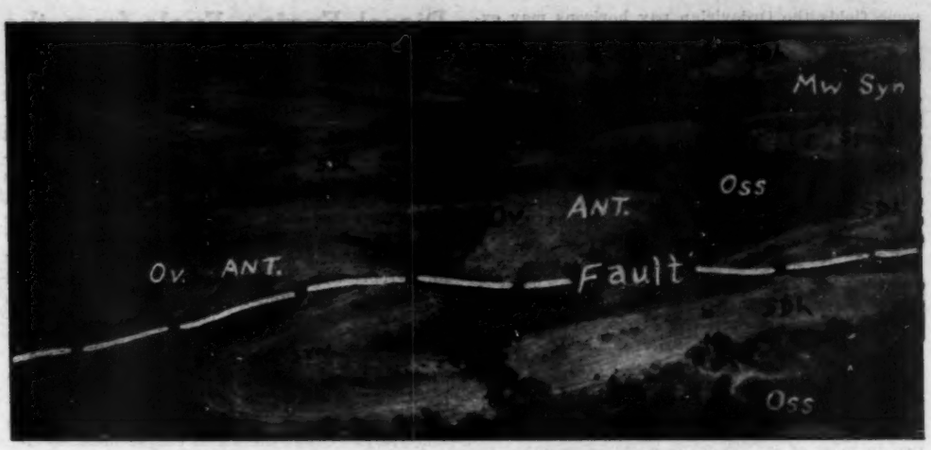
The steep dips associated with mountain folding mean very rapid changes in depth of a given formation. For example, on a dip of 45 degrees, which is only an average rate of dip in the steeply-folded Ardmore basin and the Arbuckle Mountains, a formation found at a given depth at one point will be a mile deeper than that only 1 mile away in the direction of dip. In other words, if you were to walk (or roll) down the surface of such a bed of rock, you would descend a mile for every mile of horizontal distance you traversed. The producing limestones of the Simpson formation in the Healdton field are 5,000 feet higher than in the Fox field, and at least 15,000 feet higher than in the syncline between the two fields.

Another result of steep dips and steep folding is that most of the producing anticlinal folds in southern Oklahoma have several thousand feet of closure compared with a few hundred feet, or even less, on many producing areas in the northern Mid-Continent. In the Hewitt and Graham fields, the producing sands descend 1,000 feet down the flank of the fold before the water level is reached; whereas 50 feet is a dangerous amount of dip in many fields in other districts.

Where such steep dips exist, dry holes drilled out in the synclinal areas between fields will not reach the producing horizons of the adjacent fields, unless they are drilled far deeper than the producing wells in those fields. Except for wells on the edges of production, very few dry holes in southern Oklahoma have reached the producing sands of the adjacent fields. Obviously they have not condemned the areas in which they were drilled, so far as those sands are concerned.

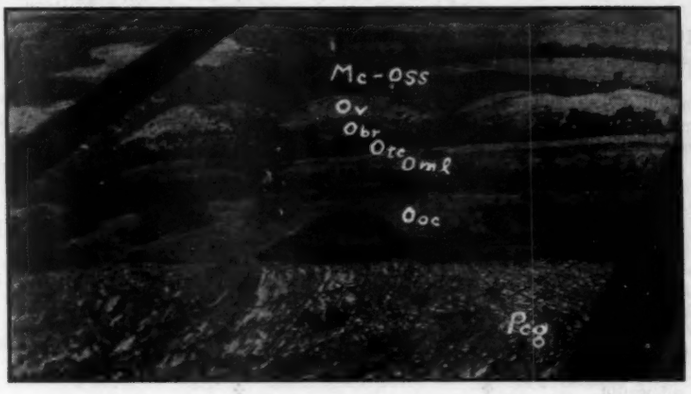
In extreme cases, the formations even stand vertically, with dips of 90 degrees, or are tipped over beyond that position so that they are really upside down, and may be drilled in the reverse of the usual order. In such circumstances, even geophysical interpretation becomes very difficult. Further complicating the picture are faults with a displacement ranging up to more than 10,000 feet.

Far from injuring the oil accumulations of the district, the extraordinary thickness of sediments and the close folding have proven favorable to unusually high yields of oil. Carter County has produced to date over 335,000,000 bbls. of oil from 22,000 acres of land. More than 99 per cent of this has come from Pennsylvanian sands, which have yielded to date an average of over 15,000 bbls. per acre. The maximum yield to date for any single property is over 125,000 bbls. per acre from a lease in the Healdton field. Other tracts have exceeded 100,000 bbls. per acre. These richest yields, and more than half of the total production of the county, have come from depths less than 1,300 feet.



Close folds in the Arbuckle Mountains, Southern Oklahoma

Mw—Woodford chert; SDh—Hunton limestone; Oss—Sylvan shale; Ov—Viola limestone; Ant.—anticline; Syn.—syncline.



Washita Valley fault northwest of Price's Falls. Looking northeast

Pcg—Pontotoc conglomerates; Mc-Oss—Caney shale, Sycamore limestone, Woodford chert, Hunton limestone, Sylvan shale; Ov—Viola limestone; Obr—Bromide, Simpson group; Ote—Tulip Creek; Oml—McLish; Ooc—Oil Creek; each streak of timber marks the outcrop of a sandstone.

In several fields of southern Oklahoma, producing sands have been developed which are scattered through more than 1,000 feet of formation, mostly shale. The aggregate thickness of producing sand ranges up to 200 feet or more in some cases.

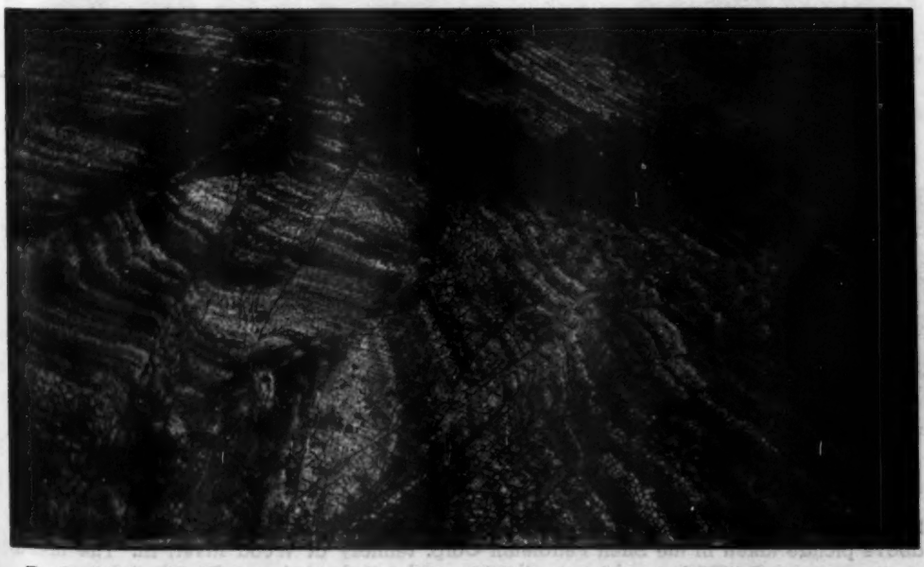
The Ardmore and Duncan districts have also had a remarkable record for slow decline of production. The average drop for the past 15 years has been only 11 per cent from one year to the next—not 11 per cent of the first year's yield, but 11 per cent of the yield of the year next preceding the one under consideration. The Healdton field has shown a decline of only 7 per cent from one year to the next, on the average. These figures compare with an average of 15 per cent per year for most of the Pennsylvanian fields of northern Oklahoma, and 8 per cent for Cushing, which has the best record of any major field of the Mid-Continent, outside of Healdton.

The shallow depth of producing formations has meant relatively low pressure, and small initial yields in proportion to ultimate recovery. The average initial production of all wells in the Healdton field was only 180 bbls.; and yet the average well in that field has yielded more oil than the average 10,000-bbl. well in the Arbuckle lime at Oklahoma City.

The present producing fields of southern Oklahoma are found in four different types of structural traps: (1) Anticlines; (2) wedging sands which end up-dip without reaching the surface; (3) sands cut off by earlier erosion and covered by younger sediments lying unconformably across their truncated edges; and (4) sands ending up-dip against faults which cut them off. They are possibilities of new discoveries of all four of these structural types.

Additional wedging sands must have been deposited in all of the deep basins between the Pennsylvanian mountain ranges; sands which did not reach over the adjacent ranges and may therefore contain oil in their upper edges, toward the former shore. Considerable areas exist in which truncated sands are known to be overlain by unconformable younger sediments, where additional pools or extensions of existing ones are almost certain to be developed. Some areas of this type are so shallow that only heavy oil can be expected, and higher prices of oil may be necessary before they are commercially profitable; but others may exist under a great thickness of cover. Oil accumulation against faults may be found against some of the faults already known, and against others still undiscovered. Anticlines may be found out in the basins between the shallow pools already found. If such low anticlines do exist, containing at greater depth the Pennsylvanian sands which have yielded so richly in the shallow pools, those sands may pay off even more liberally than before, because of the higher pressure which will accompany the increased depth.

Aside from these possibilities of additional development in Pennsylvanian sands, the deep well at Fox has aroused justifiable hopes of profitable production from Ordovician rocks. This may exist beneath any of the older anticlinal fields, and beneath any new ones which may be found. In



Faulted Arbuckle limestone in section 15 or 22-2s-4e, southwest of Mill Creek townsite

some fields the Ordovician pay horizons may extend entirely over the crest of the fold. In others the Ordovician structure may be "baldheaded," that is, the Arbuckle lime may locally come in direct contact with the overlying Pennsylvanian rocks, with Simpson production in a rim surrounding the Arbuckle area. There are also possibilities of accumulation in Ordovician sands wedging out up-dip, or truncated by unconformity, or cut off by faults; although these traps may not necessarily exist in the same location as Pennsylvanian traps of the same type.

There are a few producing Pennsylvanian anticlines under which it is conceivable that the Ordovician rocks will not show anticlinal structure. In such cases, however, the Pennsylvanian possibilities have not yet been fully explored, and additional productive Pennsylvanian sands will probably be found by deeper drilling.

The existence of three angular unconformities, one under the other in part of this region, and of two in most of it, has made geologic guidance to discovery of producing fields extremely difficult; although a majority of the major pools of southern Oklahoma were found by the use of surface geology. As the pools yet undiscovered may lie at depths ranging down to 30,000 feet or more below the surface, it is not likely that all the oil possibilities of southern Oklahoma will be tested for many years to come.

Trees Planted to Encourage the Motorist to Use Roads More

What is the oil business doing to make motoring more comfortable for the average car owner? Much has been done to improve the riding qualities of the car and better motor fuels and lubricants have been developed to permit the modern high-speed motors to perform more smoothly, but F. X. O'Byrne of the Mid-Continent Petroleum Corp. says the industry is falling short of the opportunities it holds to increase gasoline consumption. He suggests a simple but broad program of tree planting. It is his idea that the intense heat of summer days and the biting cold of the winter days could be dampened to the point where motorists would be willing to use their cars more than at present and the consumption of oil would more than off-set the cost and effort needed to go into such an undertaking. It would mean "air conditioning" in its broadest form.

It is his plan to transplant young trees from areas where there is an access to the prairie country and wherever the supply proves inadequate, to augment it with nursery stock.

Oil companies own and control a relatively large amount of the total acreage in Oklahoma, Kansas and Texas, the three states in which excessive heat and dust are known to be factors in lessening the consumption of motor fuel at times and it is Mr. O'Byrne's idea that the oil companies start the program of planting trees, shrubs and grass along the highways of these states and through efforts of other industries, together with the correlated efforts of the state governments, develop a program of systematic reforestation that will not only improve the comfort of the road and increase the consumption of gasoline but prove progressively beneficial to business generally.

The suggestion appears especially appropriate and timely and if California companies are moving their bill boards back from the road to improve the natural scenery, Oklahoma, Kansas and Texas might well consider the plan for it might help to moderate temperatures and reduce dust troubles in addition.

Airplanes Used 70,000,000 Gallons

Air transportation utilized 55,398,501 gallons of ethyl, or "blue aviation," gasoline last year, according to a report made public by the Ethyl Gasoline Corporation. This figure represents about three-fourths of all aviation gasoline used in the United States, and an increase of 30.7 per cent over the amount of ethyl consumed in 1934. The total aviation gallonage exceeded 70,000,000 gallons in 1935.

Diesel Engine Fuels from the Refiner's Point of View

Dr. R. T. Goodwin, manager of the fuel oil sales department of Shell Petroleum Corp., addressed the Conference on Diesel Engines and Transportation held March 26-27 at Purdue University, Lafayette, Ind., on "Diesel Engine Fuels from the Refiner's Point of View."

"It must be kept in mind," he said, "that the total diesel horsepower still represents a very small percentage of the 2,000,000,000 horsepower total represented by automobile and mechanical vehicles in this country. This tremendous total is to be compared with the 5,500,000 horsepower for diesel engines. The demand for diesel fuel could expand to many millions of horsepower before the present production and economic balance would be disturbed. However, in order that this economic balance may be preserved, it is more than ever essential that the diesel engine must be able to operate on as wide a range of fuels as possible.

Other well-known speakers from manufacturing, industrial and transportation fields took part in the program. The conference brought together leaders in the petroleum field interested in the use of diesel engines as applied to power and transportation.

According to Dr. Goodwin, credit for the first commercial diesel engine to be put into actual service belongs to this country. This was a 60 horsepower, two cylinder unit built by the Busch interests in St. Louis in 1898. "The diesel is inherently our most efficient type of engine," he said. "It converts much more of the energy in a fuel into work than does the steam engine or steam turbine. It is even somewhat better than the highly developed gasoline engine, which has an efficiency of only 22 to 28 per cent, whereas diesel engines for railroad, marine, and stationary use, show an efficiency of 32 to 38 per cent.

"An interesting phase of the work of the volunteer fuel committee of the American Society of Testing Materials was the selection of a suitable scale for expressing ignition quality and the development of suitable primary reference fuels—a basic standard by which all others would be judged, which would correspond in diesel oil to the octane rating of gasoline. The first reference fuel was made from spermaceti wax (cetene), derived from whales. Naturally, this substance was very expensive to secure and recently attempts have been made to produce a substitute. However, it was found that successive batches of synthetic cetene, produced by various laboratories from different sources, apparently do not have the same ignition quality. This variation necessitated further investigation, the result of which produced cetane. The ignition quality of this fuel is even higher than the cetene derived from whale's wax. However, cetane costs approximately $35.00 per gallon. Continued research has at last developed a reference fuel made entirely from petroleum which measures up to all requirements and costs approximately 80 cents per gallon."

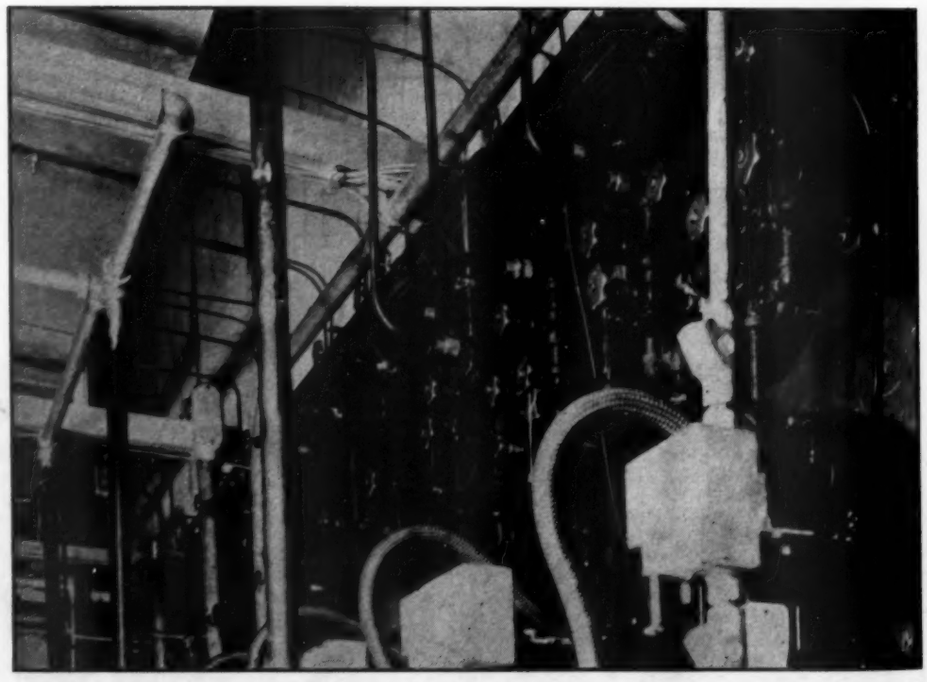
Dr. Goodwin closed with the suggestion that representatives of both diesel engine and oil industries be open-minded on their individual difficulties with the other industry. "We realize, as does the diesel manufacturer and distributor, that the operations of their installations are no more satisfactory than the fuel supplied. It is this recognition which has motivated the petroleum industry in spending time and money to produce quality fuel oils to meet particular needs. This fuel must be inexpensive enough to stimulate the sale and use of diesel engines, and there must be a sufficient demand for this product to interest the petroleum industry in its production and distribution.

"The past few years have brought the two industries closer together, and have caused the petroleum industry to realize the importance of producing quality fuel oils. This recognition has been rewarded by an increase in the number of satisfied diesel users and our increased volume of petroleum sales."

Nitrobenzene Extraction

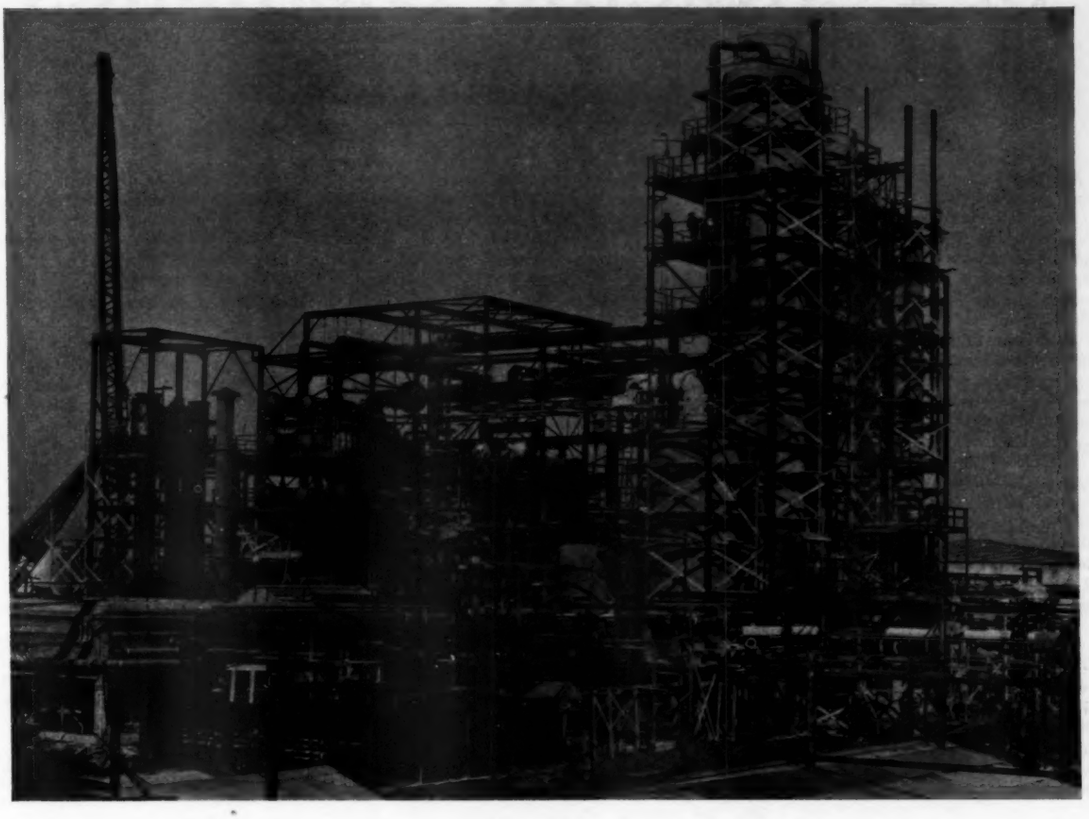
In describing the operation of the nitrobenzene extraction process the description of Figure 10 on page 88 of the issue of March 19 should have contained the statement, "Heat supplied by sat. 150 lb. ga. steam," instead of 105 as shown.

BEHIND THE SCENES IN A SOLVENT DEWAXING PLANT



Some idea of the equipment hidden behind an instrument panel may be obtained from the above picture taken in the Shell Petroleum Corp. refinery at Wood River, Ill. The instrument panel serves the new solvent dewaxing unit

COMBINATION CRACKING UNITS



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Chemical Processes in Refining of Petroleum Distillates

By JACQUE C. MORRELL and GUSTAV EGLOFF
Research Laboratories, Universal Oil Products Co.

The finished gasoline had a color of +30 and a copper dish gum of 6 mg. The treating plant was operated in this particular run at a temperature of approximately 415° F. and 225 pounds. At this point the pressure was gradually raised to 250 pounds and maintained until there was a throughput of approximately 7,330 bbls. of gasoline per ton. The color of the gasoline still remained +30 but the gum in the finished gasoline increased during the last day of operation so that the unit was shut down and the clay removed for regeneration. Increasing the amount of steam employed in the redistillation unit improved the product considerably.

As a further example of the operation of high pressure clay treaters (liquid phase) particularly on Gyro gasolines, the data in Table No. 24 are submitted[1].

In case "A" the charging stock to the Gyro is normally East Texas topped crude and occasionally this material is mixed in varying proportions with fuel oil from Mid-Continent and Gulf Coast crudes.

In case "B" the charge to the Gyro is generally topped Mid-Continent crude, i.e., Van Zandt. Sometimes crude, either East Texas or Van Zandt, is charged to the units.

In case "C" the charge is a wide range gas oil representing a mixture from Cushing, Seminole, and Healdton crudes.

In case "F" the charge is entirely East Texas topped crude.

The liquid phase clay process is coming into wider use as it has advantages both in respect to economy and results obtained.

Day Process

The Day Process owned by Universal Oil Products Co. comprises treating hydrocarbon oil with added aqueous hydrogen chloride in the presence of a free metal. Brass has given satisfactory results. A series of U. S. patents has been issued relating to this process including: 1,920,247, 1,920,248, 1,937,873, 1,970,281, 1,970,282, 1,970,283, 1,970,284, 2,001,185, 2,029,256, 2,029,757, 2,029,758. This process has gone through a very thorough development stage, and is in successful commercial operation. Morrell U. S. Patent 1,920,270 discloses the treatment of gasoline containing distillates at elevated temperatures and while maintained in substantially liquid phase with hydrogen chloride in the presence of an added metal.

As an indication of the results obtainable by this process, a gasoline obtained from the cracking of Pondera gas oil was treated direct from the cracking process at the rate of approximately 800 bbls. of gasoline per day. The unit consisted of a heater, a treating chamber, a fractionating column, condenser and receiver. Figure 5 is a simplified flow diagram which shows the general arrangement of the process. The treating chamber was lined with acid-proof cement and one course of brick and charged with brass. The flow of gasoline through the equipment was actuated by stabilizer pressure. The stabilized distillate was passed through the heater and heated to the required temperature and discharged to the bottom of the treating chamber where it was mixed with the hydrochloric acid which was also fed into the bottom of the chamber. The heated distillate and acid were contacted by upward flow through the brass and then discharged through a pressure control valve to the fractionating column wherein the treated gasoline and polymers were fractionated. The acid in the treated distillate was neutralized by the introduction of ammonia as the vapors left the column. Water was introduced into the condenser to remove the salts of neutralization. The dilute hydrochloric acid employed in the process was stored in a wooden bulk storage tank equipped with gauge glass to allow measurement of the acid flow and an acid pump which discharges into the bottom of the treater. The pump was built of Hastalloy and the acid lines of Everdur.

This is the fourth and concluding portion of an article in which methods of treating petroleum distillates are discussed. The other portions appeared in the March 19, 26, and April 2 issues.

In the operation of the process illustrated by the flow diagram, the distillate is withdrawn from the stabilizer and passed through the heating coil into the treating chamber together with hydrochloric acid. The vapors are withdrawn from the top of the treating chamber and introduced into the fractionator wherein they are fractionated. Additional heat may be supplied to the material entering the fractionator or in the fractionator. The vapors are neutralized with ammonia before entering the condenser and the final product is collected after condensation. The properties of the gasoline used are shown in Table 25.

The operating results are shown in Table No. 26.

Polymer losses of less than 1 per cent have been shown with some types of distillates.

In another plant operating on vapor phase cracked gasoline at a high capacity, a color-stable distillate was made of low gum and high induction period.

The process also has considerable application in the desulfurization of high sulfur distillates when followed by the use of a relatively small amount of sulfuric acid as is indicated by the results in Table No. 27.

The Day Process has been employed for a large variety of cracked distillates, and has shown remarkable results from the viewpoint of quality of gasoline and low operating costs.

Refining With Zinc Chloride

The use of metal salts, and more particularly zinc chloride as a refining agent, is old in the art as is demonstrated by the patents of Baynes and others[2] Baynes and Fearenside[3], Culmann[4], Schering[4], Justice[5], Plauson[6], Ridge and others[7], Kauffman and Clark[8], Dunstan[9], and Cross[10].

Lachman Process

The Lachman Process in general relates to a method of refining mineral oil which consists in heating the oil to form a vapor and passing the heated vapor through or in contact with a maintained aqueous solution of zinc chloride and then condensing the vapor.

According to Lachman[11] the process consists chiefly in washing gasoline vapors with a hot concentrated solution of zinc chloride. A final fractionation is usually required in the process; also, the zinc chloride is circulated in considerable excess over its actual consumption and the excess is continuously recirculated for reuse. The presence of hydrogen sulfide adversely affects the operation. According to Lachman, as the cracking operation develops hydrogen sulfide in large amounts it is more economical from the standpoint of zinc chloride consumption to stabilize ahead of the treater, which would of course necessitate additional heating prior to the treatment to vaporize the distillate.

In the operation of the process the vapors to be treated enter the treating tower, together with superheated steam and pass upwardly, contacting the down-flowing zinc chloride solution on the plates of the tower.

In the installation described by Albright[12] the combined vapor product of cracking and reformed naphthas leaving the bubble tower is led to the first tower of a series of three in the Lachman system. This tower is equipped with 14 trays, each fitted with 21 caps. The zinc chloride solution of 50 per cent concentration is fed to the column beneath the upper three plates, and superheated steam is injected at an inlet temperature of about 410° F. The spent treating solution in the bottom of the contact tower is removed once every eight hours and passed to the recovery unit. The vapors from the contact tower pass to a second tower lined with acid-proof tile and filled with limestone, the purpose of which is to neutralize acids formed in the process and carried over with

TABLE NO. 24—SPECIFICATION OF CHARGE TO RERUN UNIT

	"A"	"B"	"C"	"D"
Gravity	62/70	58/62	50/59	55.5
I.B.P.	65/75	70/90	80/90	87
20	105/115	115/130	150/180	158
50	165/200	210/230	270/310	261
90	360/400	390/410	390/410	404
E.P.	415/435	420/430	415/430	444
Reid, v.p., lbs.	17-19	14-16	10-12	11.6
A.S.T.M. gum	15-50	4-11	6-18	....
Ind. period, hrs.	1¼-1½	1¼-2	1¾-2¼	....
Octane No.	73-74.5	73-75	65-69	68.7
Color	Yellow	Yellow	Yellow	Yellow

Operating Conditions

Temp., °F.	520-600	460-550	510-540	505-600
Pressure, lbs.	750-800	1000	950-1000	800-1000
Rate (bbls./T./hr.)	24	25-28	14	26-32
Yield (bbls./T.earth)	2800-3500	4500-6000	1000	2800-4000

Specifications Finished Gasoline

Gravity	66/70	60/63.5	55/60	57.5
I.B.P.	70/80	75/85	85/90	84
20	110/120	115/130	160/185	153
50	170/200	190/220	230/310	248
90	355/390	365/380	365/380	370
E.P.	390/400	400/410	400/405	399
Reid v.p., lbs.	10-13	15-16	9-11	11.2
A.S.T.M. gum	1-3	1-1.6	100-175*	36.2†
Ind. period, hrs.	4-5	4-6.5	4½-7	4
Octane No.	73.5-74.5	73-75	68-69	68.9
Color	17-25	22-28	26-30	22-24

*Copper dish gum.
†Porcelain dish gum.

[1]Private Communication from Dr. C. R. Wagner, Pure Oil Co.

[1]British Patent 5,969 (1883).
[2]U. S. Patent 299,324 (1884).
[3]British Patent 26,191 (1897).
[4]German Patent 278,486 (1913).
[5]British Patent 2,572 (1914).
[6]French Patent 554,494 (1922).
[7]British Patent 203,354 (1923).
[8]U. S. Patent 1,636,938 (1927).
[9]British Patent 327,421 (1928).
[10]U. S. Patent 1,654,581 (1928).
[11]World Petroleum, October 1934, pp. 384-386.
[12]Refiner, 12, 295-309 (1933).

IDEAL

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FORGED STEEL

ROTARY DRILL COLLARS

Above condition is possible with a rotating drill collar and a non-rotating drill, or with a rotating drill and a non-rotating collar. With these methods, true boring at its best is a matter of the machinists' judgment and experience in making the proper allowance for the deflection of the drill bar due to gravity. These methods of manufacturing contribute to the tendency to bore drill collars off center.

This is the condition that exists when the drill and drill collar rotate in opposite directions. The drill has a natural inclination to seek and follow the true geometric axis of the drill collar. This method results in a balanced cross section which permits true rotation of the drill collar when in operation at the bottom of the drilling string.

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Any length up to 55 feet in standard or special diameters.

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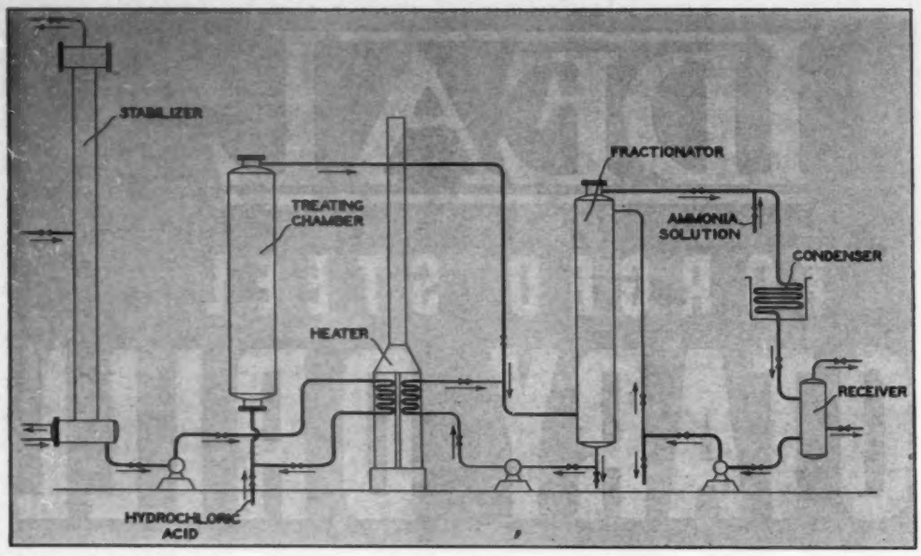


Fig. 5—Simplified flow diagram showing the general arrangement of the Day treating process which comprises treating hydrocarbon oil with added hydrogen chloride in the presence of free metal. The process has been employed for a variety of cracked distillates

the hydrocarbon vapors. The final bubble tower serves to fractionate the lighter hydrocarbons from the polymers. Anhydrous ammonia is injected near the outlet of the vapors from the tower to effect a further removal of the acids not neutralized in the limestone tower. The pressure of the system varies from 49 pounds on the inlet to the contact tower to 20 pounds on the final bubble tower. The gasoline shows a 98 per cent recovery. The bottoms from the first tower containing the sludge and spent zinc chloride are transferred to the reconditioning system, where the zinc chloride is recovered by dilution with water and settling. The sludge bottoms are finally filtered and the cake dumped.

According to another description of the operation of the Lachman Process[1] the solution is kept at about 50 per cent concentration in special circulating tanks, but it is immediately reduced to 80-85 concentration on the top plates of the tower and equilibrium between vapor temperature, steam, and solution temperatures maintains the concentration at the optimum value during its course downward. The concentrated, used zinc chloride passes to a settling tank and to a makeup tank, where it is brought to the original 50 per cent concentration for reuse. The vapors after passing through the treater tower, adjoining limestone tower and bubble tower for final fractionation are condensed in the presence of ammonia and the cracked gasoline is pumped direct to the continuous doctor sweetener and from there to storage. It is claimed that by this treatment refinery losses are small and the resulting product is stable in color and has good gum stability; also that the octane number of the gasoline is unchanged. Foster[2] quoting Lachman, states that the action of the chloride appears to be mainly catalytic and that little polymerization occurs, the chloride having some condensing action on aldehydes and other oxygen-containing materials. Special processing is required for the recovery of the zinc chloride.

According to Lachman[3] the solution and handling losses of the oil undergoing treatment in the zinc chloride process are less than 1 per cent, while polymerization losses vary with the type of stock being treated and range from 1 to 3 per cent. The quality of the gasoline from the viewpoint of color and gum stability is stated to be good.

A flow diagram of the Lachman Process[4] is shown in Figure 6.

Sweetening Gasolines

The purpose of sweetening a gasoline is to remove hydrogen sulfide and mercaptans and thus improve the odor of the product. The commonly used reagent, sodium plumbite (so-called doctor treatment) reacts with the mercaptans to form lead mercaptides. This in turn reacts with the elementary sulfur, added or present, to form the corresponding disulfides of the mercaptans and lead sulfide.

Ott and Reid[1] showed the formation of intermediate compounds comprising basic mercaptides which break down readily into lead sulfide and alcohols, thus explaining the precipitation of lead sulfide during sweetening without the intermediate step of adding sulfur. Of course, the presence of elementary sulfur in the cracked distillate would also cause the formation of lead sulfide. Ott and Reid[2] further showed that when lead mercaptides are exposed to atmospheric oxygen insoluble peroxides are formed which resemble the lead mercaptides. These authors refer to the previous work of Morrell and Faragher[3] who made the observation that oxidation by atmospheric oxygen is very slow and that only a small proportion of the mercaptides are converted into disulfides under these conditions. Ott and Reid agree with these observations and in addition show that the major oxidation products are peroxides.

Ott and Reid in a subsequent paper dealing yellow through orange and red to mahogany. This with the reactions of lead mercaptides with sulfur show that many intermediate and addition products may be formed of various colors ranging from explains the many color changes which occur during the sweetening of cracked distillates with sodium plumbite.

Regarding the role of lead sulfide in sweetening petroleum distillates, Wendt and Diggs[1] assigned to it a purely catalytic action in promoting reaction of the mercaptans with sodium plumbite. Morrell and Faragher[3] have shown experimentally that lead sulfide is oxidized to lead sulfate, which dissolves in sodium hydroxide to form sodium plumbite, resulting in the usual sweetening reactions. In order to explain the observation that the consumption of sodium hydroxide is insufficient to account for the reaction involving the formation of sodium plumbite in some cases, Morrell[5] suggests that the sodium mercaptides (mercaptans in the presence of sodium hydroxide) are oxidized in part by the oxygen to form the corresponding disulfide and sodium hydroxide, which reaction takes place simultaneously with that shown by Morrell and Faragher.

Rowsey and Whitehurst[4] have described the use of lead sulfide and sodium hydroxide as a sweetening agent and state that they obtain satisfactory results.

In regard to the use of elementary sulfur in sweetening, the undesirable side reactions occurring during distillation, in storage and in the presence of light have been shown by Friedman[6], Morrell[6], Faragher, Morrell & Comay[7], and Morrell, Egloff and Benedict[8].

Morrell and Faragher[3] showed that sulfur and sodium hydroxide could be used for converting mercaptans, such as ethyl, n-butyl, iso-amyl, heptyl and benzyl mercaptans, into the corresponding disulfides.

Wagner[10] and Stagner[11] also recommend the use of sodium hydroxide solutions for sweetening with the addition of free sulfur. The reaction in all of these cases is presumably the formation of the sodium mercaptide and conversion of the same into the corresponding disulfide, which together with excess sulfur should introduce at least to some extent the objection to the plumbite process.

Happel and Robertson[12] made a large number of experiments on the extraction of the lower mercaptans from a cracked stabilized naphtha with aqueous sodium hydroxide solution, and showed the distribution coefficients between the aqueous solution and the naphtha of various mercaptans.

[1]Natl. Pet. News, 25, 26 (June 7, 1933).
[2]Natl. Pet. News 25, 60 (Jan. 25, 1933).
[3]Chem. and Met. Eng., 42, 414 (1935).
[4]Refiner, Aug. 12, 299 (1933).

[1]J.I.E.C. 22, 882 (1930).
[2]J.I.E.C. 22, 882 (1930).
[3]J.I.E.C. 19, 1,045 (1927).

[1]J.I.E.C. 16, 1,114 (1924).
[2]J.I.E.C. 19, 1,045 (1927).
[3]N.P.N. 22, No. 51, p. 61 (1930).
[4]The Oil and Gas Journal, 26, No. 32, p. 250 (1927).
[5]Pet. 2, 693 (1916).
[6]J.I.E.C. 18, 732 (1926).
[7]J.I.E.C. 20, 527 (1928).
[8]J.I.E.C. 28, 122 (1936).
[9]Loc. cit.
[10]The Oil and Journal, 31, No. 45, p. 28 (1933).
[11]J.I.E.C., 27, 275 (1935).
[12]J.I.E.C., 27, 941-948 (1935).

TABLE 25—TREATING SUMMARY DAY TREATING PROCESS

	Pondera gas oil (cracking)	Pondera straightrun gasoline	Pondera fuel oil (cracking)	Pondera fuel oil straightrun gasoline
Source of gasoline:				
Run No.—	1	2	3	4
Properties of untreated gasoline:				
Color	Yellow	Yellow	—9	Yellow
Gum	30	10	35	60
Sulfur	0.16	0 04	0.19	0.16
Endpoint	395	393	396	394
Properties of treated gasoline:				
Color/stability	29/27	30+/28	30+/28	29/37
Gum, Mg.	3	1	6	2
Sulfur, per cent	0.10	0.03	0.13	0.11
Doctor test	Pos.	Pos.	Pos.	Pos.
Oxygen bomb stability, min.	280	300+	300+	255
Octane No.	67.5	70	68 5	69.5
Vapor pressure, pounds	10.5	10.75	11.2	11.6
Gravity, °A.P.I.	60.3	61 5	60.9	61.8
I.B.P.	90	90	84	82
5 per cent	114	122	106	108
10 per cent	124	138	120	124
20 per cent	149	166	148	144
50 per cent	249	231	244	239
70 per cent	305	274	302	288
90 per cent	359	336	360	353
E.P.	388	385	390	384
Per cent recovery	97	96	96	96
Properties of polymers:				
Gravity	22.4	22.0	25.6	25.4
I.B.P.	418	446	406	396
5 per cent	432	464	418	408
10 per cent	436	472	426	414
20 per cent	450	480	440	422
50 per cent	518	514	484	472
70 per cent	610	556	616	592
90 per cent	700	668	680	660
Color	Black	Black	Black	Black
Per cent sulfur	0.7	...	...	...

Among some of the other undesirable effects which have been noted in sweetening in plumbite or doctor solution are the removal of substances having natural inhibiting qualities[1], reduction in octane number, and reduction in susceptibility to gum inhibitors and tetraethyl lead. The effect of disulfides and other sulfur compounds on the susceptibility of gasolines to tetraethyl lead has been shown by Schulze and Buell[2] and Wirth and Murphy[3]. The effect of plumbite sweetening upon color stability has been traced to the disulfides as well as to elementary sulfur[4].

Morrell and Faragher[5] showed that the sulfides of various metals such as mercury, silver, copper, nickel and others may be similarly oxidized to the sulfates which react with sodium hydroxide and subsequently with the mercaptans to form the corresponding mercaptides. These mercaptides of the various metals will react with sulfur to form the corresponding metallic sulfides and the disulfide, thus serving as a basis for sweetening oils. The mercaptides of copper and other metals may be removed by adsorbents such as fullers earth, and under suitable economic conditions salts of metals such as those shown above or their solutions may be used for sweetening purposes, with the added advantage of eliminating the use of elementary sulfur from the sweetening process.

Sweetening With Hypochlorite Solution

This method is usually unsatisfactory for cracked gasolines because of the development of a color and gum unstable product but gives highly satisfactory results with straightrun gasolines, including natural gasoline. The gasoline is first washed with caustic soda, then contacted with the hypochlorite solution employing either sodium or calcium hypochlorite, although the sodium hypochlorite appears to be preferable. The strength of the solution usually varies from about 5 to grams of available chlorine per gallon of solution and the excess caustic from about 3 to 5 grams per gallon.

Birch[6] summarizes results of treatment of gasoline with hypochlorite solution as follows:

1. No acid products are formed from sulfides or sulfoxides.

2. Thiophene and sulfones do not react under the conditions employed.

3. Increase in molecular weight of the sulfur compound (a) decreases the rate of oxidation (diisoamyl disulfide scarcely reacts at all), and (b) decreases the solubility of the oxidation products, which become increasingly soluble in the oil layer.

4. Increase in the free alkali content of the hypochlorite decreases the rate of reaction considerably, and conversely.

5. Dilution of the hypochlorite increases the rate of reaction.

Organic sulfides are quantitatively oxidized to sulfones. Organic disulfides oxidize to acid products, that is, sulfonic acids and sulfuric acids. Since the former are not further oxidized it is indicated that sulfuric acid is formed directly by oxidation of the disulfides. Mercaptans form sulfonic acids, sulfuric acid and disulfides.

The first part of the reaction in which the mercaptan itself takes part does not appear to be greatly affected by the alkalinity of the reagent, while the factors which influence the destruction of the resulting disulfides are those which govern the normal interaction of this type of compound with sodium hypochlorite. Neither thiophene nor elementary sulfur are attacked.

Gardner[1] discusses the use of brucite, a hydrated magnesium oxide, for sweetening, and equivalent material such as hydrated magnesium oxide made by treating the crude oxide or by calcining magnesite (magnesium carbonate) which is subsequently hydrated.

The process consists generally in the following steps: calcining magnesite (magnesium carbonate) to produce magnesium oxide, which is sized and placed in treater towers, hydrating the oxide by upward circulation of water, and subsequently drying by steam and air.

The gasoline to be sweetened is prepared by adding sulfur to the same and then passing it upwardly through the brucite. In regenerating, the contact mass is treated with a 5° Be. caustic soda at boiling temperature, washed with hot water, and then dried. The reactions involved are similar to the plumbite reactions, namely, that the magnesium mercaptides are first formed and then decomposed by sulfur to produce dialkyl disulfides and regenerate the brucite. Some sulfur fixation occurs to produce magnesium sulfide.

Gardner[1] states that brucite is especially useful for the removal of phenols from distillates, neutralization, sweetening, and removal of hydrogen sulfide from distillates and gases. It is reported that approximately 1,250 bbls. of gasoline per ton of brucite could be sweetened before revivification is needed. The results will vary with the type of distillate undergoing treatment, and it has been stated that difficulty has been encountered with some types of cracked gasolines.

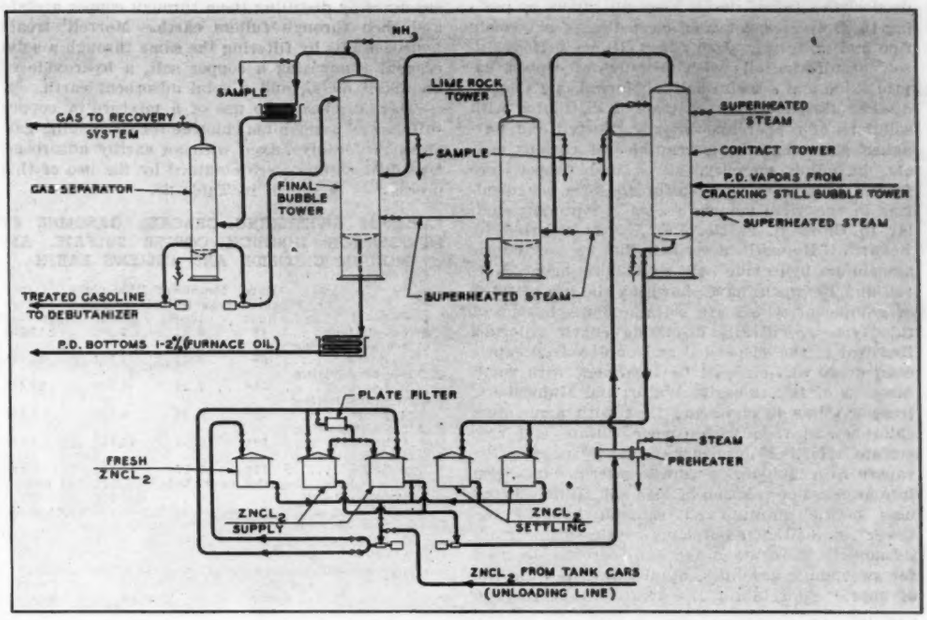


Fig. 6—Flow diagram of the Lachman Process of refining distillates which consists in passing the oil vapor in or in contact with a maintained aqueous solution of zinc chloride

Sweetening With Copper Salts

Kennedy[2] desulfurizes oil by heating with solutions of sodium chloride, cupric sulfate and sodium hydroxide. Frash[3] treats hydrocarbon oil by distilling over copper oxides. Amend[4] agitates the oil to be treated with a solution containing an excess of copper salts. Hellsing[5] deodorizes and desulfurizes oils with solutions of cupric salts. Walker[6] attempts to desulfurize petroleum distillates by passing the vapors of the same over anhydrous copper chloride. British Patent to All. Ges. Chem. Ind.[7] shows the use of heavy metal salts for the treatment of cracked oils, including stannic chloride, zinc chloride, ferric chloride and copper sulfate. Mantle[8] treats hydrocarbon oil by distilling over copper oxides. Cross[9] utilizes clays containing adsorbed salts of copper over which the vapors of oils are passed for desulfurizing and

[1]Sager, J.I.P.T., 20, 1,044 (1934).
[2]The Oil and Gas Journal, No. 22, p. 42 (1935).
[3]The Oil and Gas Journal, No. 38, p. 28 (1936).
[4]Egloff, Morrell, Benedict and Wirth, J.I.E.C., 27, 328 (1935).
[5]Loc. cit.
[6]The Oil and Gas Journal, 28, No. 1, 190-4 (1929); 28, No. 2, 38 (1929).

[1]Natl. Pet. News 24, 31 (1932); Chem. and Met. Eng. 39, 378 (1932); see also Gardner and Higgings, J.I.E.C., 24, 1,141-6 (1932).

TABLE 26—OPERATING SUMMARY OF DAY TREATING PROCESS

Run No.	1	2	3	4	
Date	8/1-8/28	7/3-7/26	10/1-10/7	10/7-11/17	
Days on stream	26.8	19.9	6.7	38.7	
Throughput for run	9,640	11,705	2,226	18,200	
Throughput total	9,640	21,345	23,571	41,771	
Barrels per day	360	587	333	470	Beginning Run 5
Brass in place	11,500	13,700	14,700	14,700	16,000
Brass, total bbls./lbs.	0.84	1.56	1.60	2.85	...
Brass, bbls./lb. brass added	...	5.3	11.7	...	15.7
Pressures:					
Treater	125	135	135	135	
Rerun column	5	10	12	18	
Temperatures:					
Heater inlet	...	298	325	322	
Treater inlet	470	451	452	444	
Treater outlet	467	456	468	440	
Bottom rerun	490	529	490	495	
Top rerun	298	292	302	303	
Reboiler return	570	587	553	580	
Furnace—Cell A	1,358	1,572	1,273	1,396	
Furnace—Cell B	1,228	1,273	1,213	1,256	
Furnace—Stack	706	700	711	703	
Acid, lbs./bbl. (commercial acid)	0.70	0.55	0.88	0.66	
Ammonia, lbs. anhyd./bbl.	0.12	0.10	0.17	0.10	
Bottoms recirculated, bbls./day	425	450	400	375	
Reflux return, bbls./day	300	400	400	575	
Polymer loss, per cent	2.5	1.5	2.25	2.0	

TABLE 27—RESULTS WHEN TREATING WITH SULFURIC ACID ALONE AND WITH DAY TREATMENT

Pounds of 93% H_2SO_4 per bbls.	Sulfur		Treating losses, %		Gum, Mg./100 cc. copper dish	
	H_2SO_4 alone	With Day treatment	H_2SO_4 alone	With Day treatment	H_2SO_4 alone	With Day treatment
2	0.40	0.27	2.7	2.8	80	40
4	0.34	0.24	3.2	3.1	40	30
6	0.27	0.20	4.6	3.5	28	12
8	0.21	0.15	6.1	3.9	7	6
10	0.18	0.12	7.0	4.2	52	10
12	0.16	0.11	8.0	4.7	200	30

[1]Loc. cit.
[2]British Patent 6,018 (1887).
[3]U. S. Patent No. 590,252 .1888).
[4]U. S. Patent No. 742,747 (1903).
[5]British Patent No. 9,180 (1907).
[6]U. S. Patent No. 955,372 (1910).
[7]British Patent No. 3,572 (1914).
[8]British Patent No. 126,882 (1919).
[9]U. S. Patent No. 1,515,733 (1924).

deodorizing. Odom[1] desulfurizes oil vapors by passing them over copper wool consisting of extremely fine and uniformly sized fibers. Ridge & Hodgkinson[2] desulfurize oils with mixtures of copper, cupric oxide and a metal halide. Morrell and Comay[3] disclose the treatment of cracked distillates with solutions of copper hypochlorite. Morrell and Faragher[4] state that the mercaptides of various metals, including mercury, silver and copper, are formed and react with sulfur to form the disulfide in the same manner as lead. A process similar to Cross U. S. No. 1,515,733 is reported by Eckart[5]. Hounsel[6] describes the use of cupric ammonium hydroxide as a sweetening agent. Morrell and Bergman[7] have shown by the use of types of equipment which are suitable for solutions of this type, specifically disclosing cupric chloride. Removal of the suspended and/or dissolved cupric compounds was effected by treatment with small amounts of fullers earth. Walter and Muhlenberg[8] treat gasoline by agitating first with ammonium chloride and then with copper sulfate and zinc sulfate. Herthel[9] desulfurizes oils by passing the vapors over anhydrous cupric chloride and then into an alkaline solution of lead salt. Blumenberg[10] uses cupric sulfate and calcium hypochlorite. Greer[11] states that amorphous cupric sulfide readily adsorbs mercaptans and can therefore be used for sweetening gasolines. Staub[12] describes the use of cupric chloride for the treatment of cracked gasoline. The cupric chloride is made up by dissolving copper sulfate and sodium chloride in water. The resulting solution reacts with the mercaptans forming cupric mercaptides which react further with the cupric chloride to form the disulfides and cuprous chloride. The cuprous chloride may be regenerated by treatment with hydrogen chloride and oxygen. Staub states that the cupric chloride solution is very corrosive and will attack nearly all metals and concrete. Phillips and Stafford[13] treat oil vapors with sodium hydroxide solution containing dissolved copper oxide. Rostin[14] purifies mineral oils by passing them over heated reduced granular copper. Gray[15] sweetens cracked gasolines by distilling them through copper acetate and then through fullers earth. Morrell[16] treats hydrogen oils by filtering the same through a solid reagent comprising a copper salt, a hydroxide of an alkali metal, and a solid adsorbent earth.

Day[17] discloses the use of a mixture of copper sulfate and ammonium chloride for sweetening gasoline, preferably mixed with an earthy adsorbent. Excellent results were obtained by the use of this process as is shown in Table 28.

TABLE 28—SWEETENING CRACKED GASOLINE BY PERCOLATION THROUGH COPPER SULFATE, AMMONIUM CHLORIDE AND FULLER'S EARTH

Period—	Rate bbls./ton hour	Pounds of reagent/bbl. total	Bbls. yield per ton total	Cc. for period
1. Fresh material ...	48	0.37	2,300	12,055
2. After air blowing 18 hours	58	0.43	4,651	12,115
3. After air blowing 24 hours	68*	0.25	8,000	18,435
4. After air blowing 24 hours	55	0.21	9,525	7,660
5. After air blowing 20 hours	70*	0.18	11,111	7,130
6. After air blowing 24 hours	77*	0.17	11,765	2,420
(Rate reduced stepwise to 25 bbls./ton/hr., but sweetening rapidly lost). Mixed in 10 g. NH_4Cl mechanically with contact mass				
7. After air blowing 24 hours	70*	0.21	....	6,395

*Maximum.

Properties of gasoline before and after treatment:

	Before (sour)	Plumbite treated	Copper treated
Color	—9	—5	—8
Arc stability	—9*	—6†	—8*
Induction period ...	170 min.	120	180
Induction period + 0.05% inhib..	270	265	245
Octane No.	69	69	69
Octane No. + 1 cc./gal. tel.....	75	75	75

*Clear, 30 min.
†Haze in 7½ min.

Contact Material—Made by incorporating 25 pints by weight of NH_4CL and 25 pints by weight of $CuSO_4 \cdot 5 H_2$ (dissolved in water) with 50 pints by weight of 16-30 mesh fullers earth, and drying at 120° C. 30 gr. reagent used. Downward percolation at room temperature.

Schulze and Buell[1] describe the use of a mixture of cupric chloride and sodium chloride either in aqueous solution or adsorbed on fullers earth, following the treatment by washing with an aqueous solution of sodium sulfide. The reactions they propose are similar to those described by Straub[4]. The mechanism of the reaction of mercaptans with the copper sweetening solution is essentially the oxidation of the mercaptans to the corresponding disulfides and the reduction of the cupric ion to the cuprous state. Exemplified with a cupric chloride solution, the reactions are as follows:

(1) $4\ R\text{-}S\text{-}H + CuCl_2 \rightarrow R\text{-}S\text{-}S\text{-}R + 2\ R\text{-}S\text{-}Cu + 4\ HCl$

(2) $2\ R\ S\ Cu + 2\ CuCl_2 \rightarrow R\text{-}S\text{-}S\text{-}R + 4\ CuCl$

Combining the two stages, the equation becomes:

(3) $4\ R\text{-}S\text{-}H + 4\ CuCl_2 \rightarrow 2\ R\text{-}S\text{-}S\text{-}R + 4\ CuCl + 4\ HCl$

The cuprous chloride formed in the reaction, although practically insoluble in water, is quite soluble in solutions containing a high concentration of chloride salts. The hydrochloric acid is retained also by solution. These two factors are highly essential to the process since in the next step the cuprous chloride and the hydrochloric acid are reconverted to cupric chloride by oxidation with air. The equation for this reaction is:

(4) $4\ CuCl + 4\ HCl + O_2 \rightarrow 4\ CuCl_2 + 2\ H_2O$

Addition of equations (3) and (4) gives the simple expression

(5) $4\ R\text{-}S\text{-}H + O_2 \rightarrow 2\ R\text{-}S\text{-}S\text{-}R + 2\ H_2O$

from which it is seen that no chemicals, other than oxygen, which in practice is obtained from compressed air, are concerned in the process.

J. C. Morrell made a commercial scale treatment over 10 years ago in a large Mid-Continent refinery, employing solutions of cupric chloride and sodium chloride to sweeten cracked distillates from Mid-Continent fuel oil and found that this solution was effective in sweetening sour cracked distillates and cracked gasolines generally, and that the principal objections to its use were (a) corrosion, (b) deposition of copper on steel and iron pumps and other equipment due to replacement of the iron by copper, (c) formation of cupric mercaptides and other soluble copper compounds giving the distillate a bluish-green cast. All of these objections may, however, be overcome.

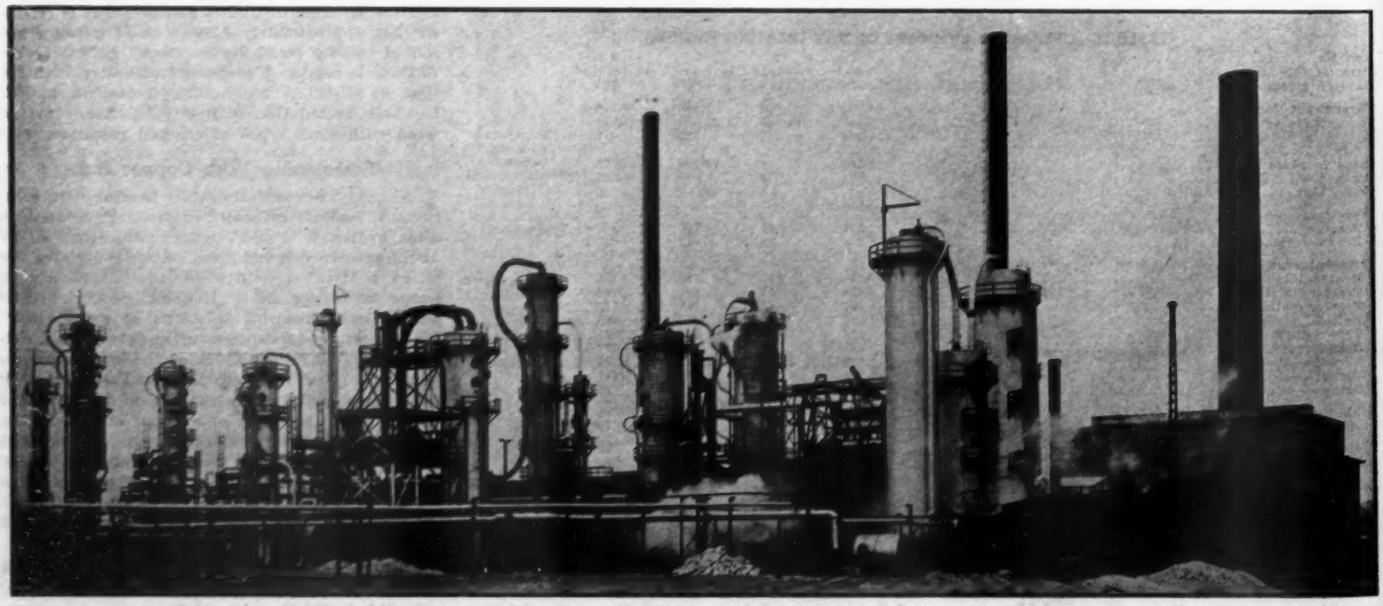
The advantages of the use of copper salts are principally to avoid the use of excess sulfur, which has been shown many times in the past to be detrimental to the color stability of the gasoline as well as to promote gum formation, as well as other advantages, over the use of plumbite solutions which in many cases makes its use more desirable and more economical.

Conclusion

In a previous paper upon this subject published

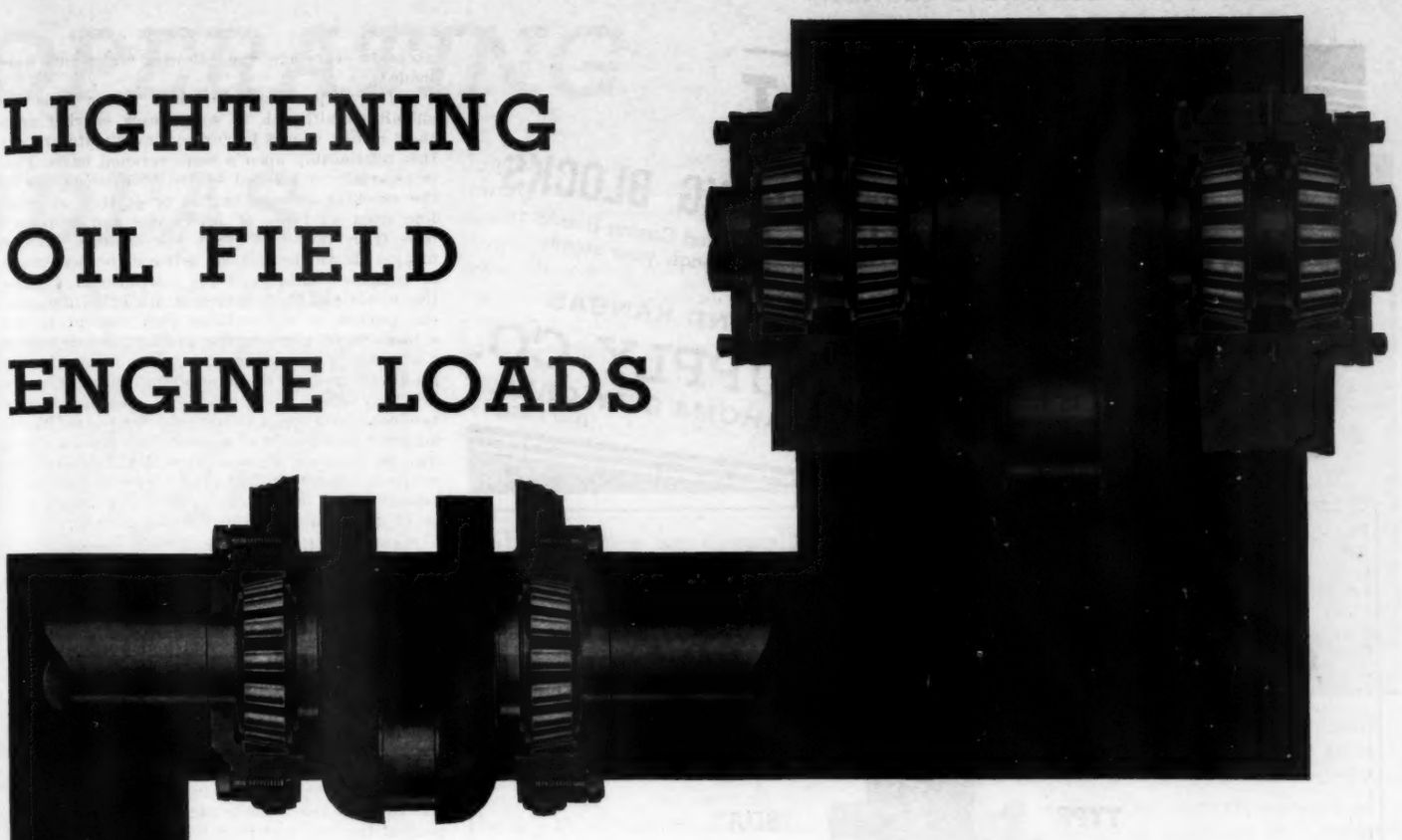
[1] U. S. Patent No. 1,604,235.
[2] U. S. Patent No. 1,605,329 (1926).
[3] U. S. Patent No. 1,627,055 (1927).
[4] J.I.E.C., 19, 1,045 (1927).
[5] Seifensieder Ztg., 54, 82-3 (1927).
[6] Ref. and Nat. Gas. Mfg., 7, 59-60 (1928).
[7] Chem. and Met., 35, 210, 291, 350 (1928).
[8] U. S. Patent No. 1,669,181 (1928).
[9] U. S. Patent No. 1,723,800 (1929).
[10] U. S. Patent No. 1,734,197 (1929).
[11] J.I.E.C., 21, 1,033 (1929).
[12] Petroleum Engineer, 2, 161-2 1930).
[13] U. S. Patent No. 1,744,611 (1930).
[14] French Patent No. 714,525 (1931).
[15] U. S. Patent No. 1,825,361 (1931).
[16] U. S. Patent No. 1,911,640.
[17] U. S. Patent No. 1,948,565 (1934).
[1] The Oil and Gas Journal, 34, 42-6 (1935).
[4] Loc. cit.

TREATING EQUIPMENT ADDED TO REFINERY IN GERMANY



The three towers on the right, in front of the middle stack, are the Lachman continuous vapor phase treating equipment of the new 10,000-barrel refinery of Eurotank, New Petroleumhafen, Hamburg, Germany
(Otto Reich Photo.)

LIGHTENING OIL FIELD ENGINE LOADS



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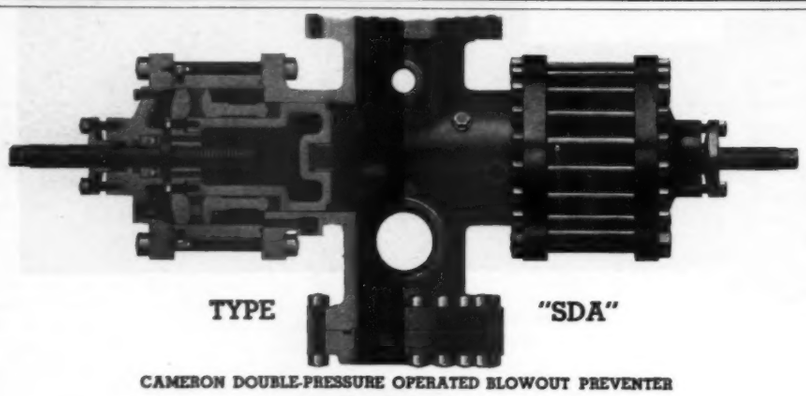
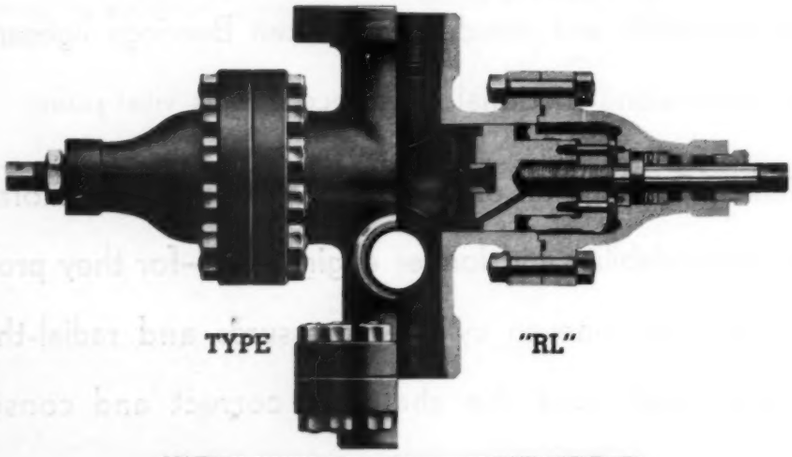


TYPE "SDA"

CAMERON DOUBLE-PRESSURE OPERATED BLOWOUT PREVENTER



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about 10 years ago[1] the following statements were made:

"The various tests to which motor fuels are submitted, although in some cases bearing upon their utility, should be further investigated to put this relationship upon a more rational basis. This is especially demanded by the widespread use of the cracking process in the production of gasoline from all types of heavy oils and hydrocarbons from various sources. For example, no one has yet shown the relation between the percentage of combined sulfur and the tolerance of a gasoline motor and its feed system. Likewise, the present method of determining gum content is not a measure of gums in the gasoline, but is rather a measure of the gummy substances formed by the arbitrary method of determining them. To fix arbitrary limits upon unknowns does not appear rational. Certainly, a thorough study of the fundamental requirements of a motor fuel from a chemical as well as physical viewpoint, directed towards automotive utility, and a system of specifications based only upon these requirements will be of great value to the refining industry.

"At some time in the future, especially for some types, the gasoline distillate may be taken directly from the cracking plant and subjected to a very light treatment (such as an alkaline wash and adsorbent earth treatment) to improve odor and stability only; and a definite and distinctive color may be imparted by dyeing the resulting gasoline product."

The first statement, in effect, sums up a suggested philosophy and objective to guide the petroleum industry in its attitude towards the refining of gasoline, while the second statement is a prediction of the manner in which this objective was to be obtained. These suggestions have already pointed the way and even today remain essentially the direction flag for the future development of gasoline refining. More careful studies are being made of the practical requirements of motor fuels and specifications and qualities are being modified to meet these requirements. The refining methods usually employed are selected solely from the viewpoint of meeting the minimum requirements of utility, bearing in mind that the most economical method which will give the desired product is the one to be used.

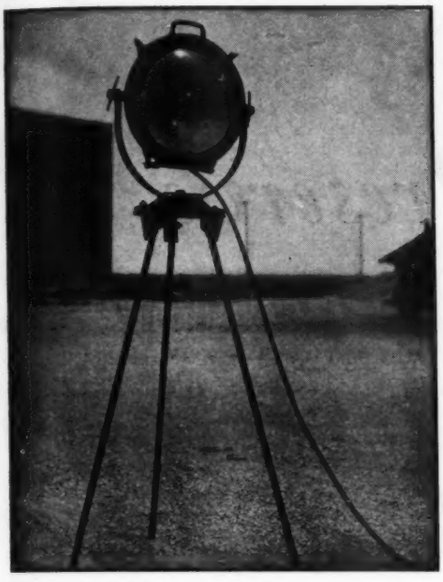
In many cases refining treatment has been completely eliminated, resorting only to an alkali wash followed by a water wash and the addition of an inhibitor to prevent the development of gum. The question of color in these cases is largely taken care of by the use of dyes. In many other cases only a relatively small proportion of the distillate is subjected to extensive treatment, the remainder being given a relatively light treatment such as alkali and/or water wash and the addition of an inhibitor. There are many cases, no doubt, where odor may not be quite satisfactory, and one may safely predict that objections in these cases may be overcome by the addition of perfumes or in general of substances having a pleasant odor. The synthetic perfume industry has been already developed to where it may be economically drawn upon to assist the oil industry. A distinctive color and odor may even be a desirable asset beyond their masking value.

Without question the industry will continue to make progress and improvements from the scientific and technical standpoint not only along the lines of masking undesirable color or odor (which do not affect the real utility of the motor fuel), or of preventing the development of undesirable substances in the product but also in removing undesirable substances. This latter may be accomplished, e.g., by the use of solvents to remove sulfur compounds and gum-forming substances selectively, as well as for the separation of the desirable from undesirable hydrocarbon groups to improve motor fuel quality in respect to octane value and to make improved diesel oils; the use of special reagents and reactions to remove sulfur compounds such as by catalytic hydrogenation. Another development will be the production of hydrocarbon derivatives having high octane value in situ by chemical synthesis and isomerization of compounds already present, as well as other chemical changes and processes which may be developed by the resourceful chemist.

[1] J.I.E.C. 18, 733-738 (1926).

OPERATING IDEAS

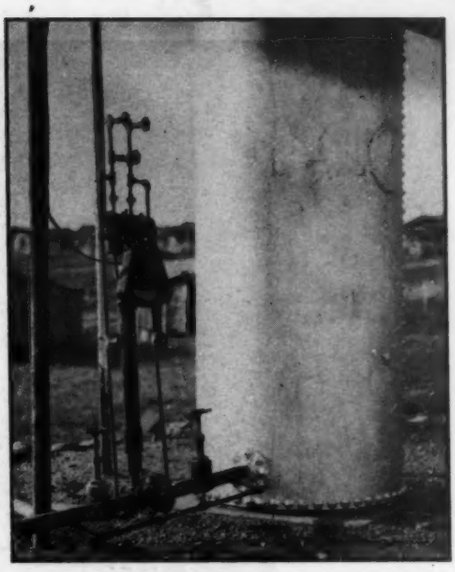
Portable Flood Light



The portable flood light shown here has been found to be a very valuable and convenient piece of lighting equipment. The refinery in which this light is used is equipped throughout with flood lights mounted on towers, the location of the towers being designed to give proper distribution of light. However, when repairing equipment or doing other work requiring very good lighting there were points in the plant where the lighting system was found inadequate. Thus by setting up this portable light at a point where it would light the scene there was no need to add to the permanent lighting equipment of the plant. The light is provided with a rubber encased light cord which may be plugged into any nearby socket.

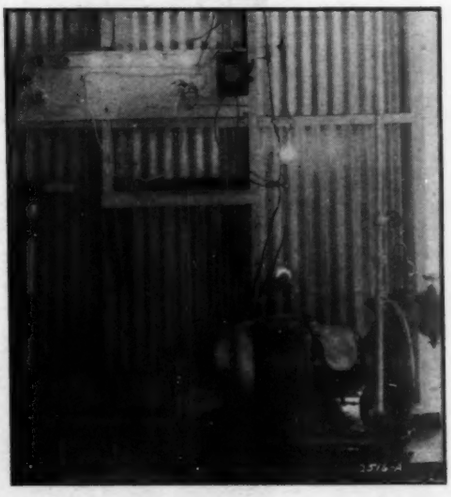
Thief Alarm on Gasoline Line

To prevent thieves from tapping its gasoline line or if a leak develops in the line which runs from the storage tanks to the loading rack some five miles away, one oil company operating a gasoline plant in the Seminole field has installed an unusual alarm system. The company installed an air volume tank maintaining a pressure of 100 pounds which is the same as that held on the line. An orifice diaphragm was installed on the line with the tank pressure acting on one side and the line pressure on the other. As long as these two pressures are equal the alarm system is silent, but if the line is tapped or a leak develops the pressure on the line side drops and causes the flow indicator to trip a mercury switch connected to an electric horn. After the contact is established the horn will continue to blow until the leak is repaired or the switch contact is broken. This alarm has proven to be very successful in notifying the operators when thieves are tampering with the line.



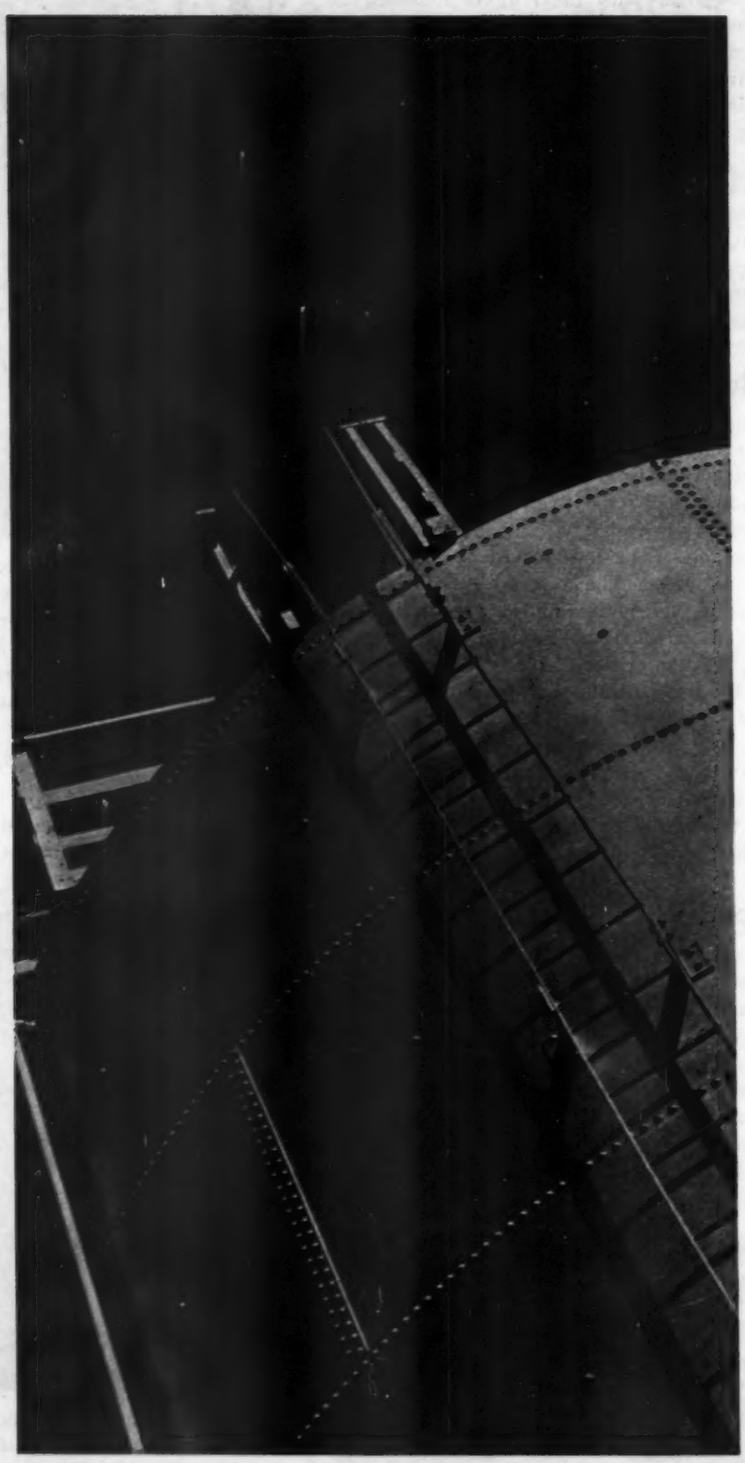
Storage Batteries Charged

An oil company operating in the Ada pool has devised a simple method for charging storage batteries by means of a steam turbine D.C. generator used to supply light for the pump station. The photograph shows the hookup which is used. The generator is rated at 110 volt, 13.5 amperes. An amp meter taken from an automobile is used to indicate the amount of current being charged to the battery. The voltage is controlled by the number of lights connected into the circuit, a slow discharge battery requiring from one to two lights while car batteries require five or six lights to be left burning. A box switch is provided so that the charging hookup may be disconnected from the lighting circuit while not in use.



Stationary Foam Hose Reel Equipped With Detachable Hood

The outstanding features of this stationary foam hose reel are the ease with which the cover may be removed in case of fire, and the freedom offered by the 90-degree vertical opening for unrolling the hose. The hood is fitted to the protective sheet iron shell by means of two slightly curved tongues which slide into slots cut in the shell. The hood is fastened on the lower side by means of two latches, the whole inclosure being reinforced by two strips of angle-iron. To open the hood the latches are turned, and by raising the cover the tongues become disengaged from the slots thus leaving the hood free for placing to one side. The hose is connected to a source of foam, lines being laid from a central point to the several hose reels, thus insuring an instantaneous supply of foam in case of fire. Another feature is that it is practically weather-proof thus preventing the hose from rotting.



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Equipment for Accurately Measuring Viscosity in Fundamental Units

By M. R. CANNON and M. R. FENSKE
Petroleum Refining Laboratory, State College, Pennsylvania

In a previous article[1] simple equipment was described for the standardization of a series of oils covering a 1,200-fold range in viscosity against pure water as the ultimate reference basis. To make such measurements in a precise manner it was necessary to study carefully the differences in the fundamental properties of water and of oils so that the instrument would be free of errors which arise from these differences. The result of this study was a set of two master viscometers, Figure 1, designed to standardize oils against pure water. Oils standardized in this manner are used to calibrate routine viscometers for general laboratory use. It is the purpose of this article to explain the principles and operation of these simple routine viscometers. This is particularly desirable since they are now being used quite extensively throughout the petroleum industry.

Figure 2 shows the routine viscometer for the rapid determination of the viscosity in fundamental units of petroleum products. It is essentially an Ostwald viscometer that has been considerably modified so as to make it more precise and incorporate an accurate loading device as an integral part of the instrument. In addition a glass strengthening bridge joins the two

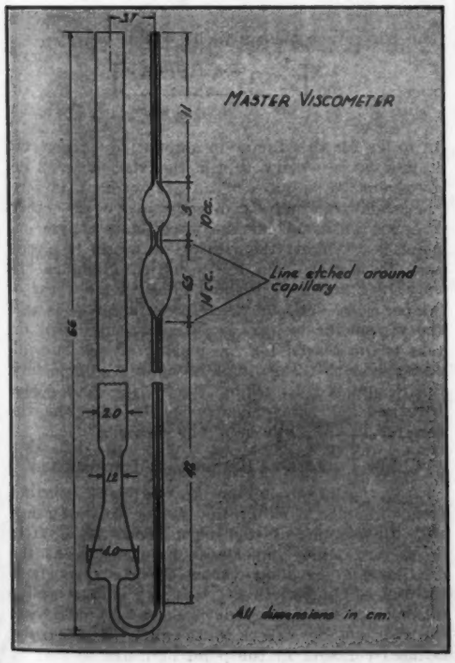


Fig. 1—Master viscometers for standardizing oils against water as a viscosity basis

legs of the viscometer which is constructed of heavy wall Pyrex glass and hence is extremely strong. Breakage is practically eliminated. The two bulbs on the capillary arm of the viscometer afford a simple means of accurately filling it.

This method reduces loading errors to a negligible figure. To charge the instrument it is inverted and suction applied to the open end of the viscometer with the capillary arm placed in a small beaker containing the oil. Both 3cc. bulbs are filled; the charging volume is that held by these two bulbs plus that held by the capillary arm extending to the open end of the instrument. This is a simple operation and the operator may fail to get the oil level to the etched mark on the capillary arm by several centimeters without introducing an appreciable error because the volume of oil in the capillary is practically negligible when compared to that in the loading bulbs. When loaded, the instrument is placed in the constant temperature bath and allowed to drain into the lower reservoir while attaining bath temperature. The sole purpose of the uppermost bulb in the capillary arm is that of serving as a loading device in conjunction with the second bulb immediately beneath it. After loading the upper bulb is not used further. The time of flow taken is that measured for the sample to flow from the etched line between the bulbs to the line at the base of the lower bulb. A check run is simply made by sucking the lower bulb full of oil and retiming. The viscosity of the sample is then obtained by dividing the efflux time by the constant for the particular viscometer in use. The constant of each viscometer is evaluated by running a series of standardized oils.

The principles and operation of a simple routine viscometer which has been found to accurately measure the viscosity of petroleum products in fundamental units are described.

These routine viscometers are attainable in almost any size capillary bore so that light, medium or heavy oils can be evaluated quickly as well as accurately. Three instruments are sufficient for covering the entire range of motor oils in a convenient manner. One, of course, may employ fewer than three instruments to cover a wide viscosity range with a necessary sacrifice in time.

In order to clearly demonstrate the magnitude and sources of error in instruments of this type each factor of importance will be considered separately.

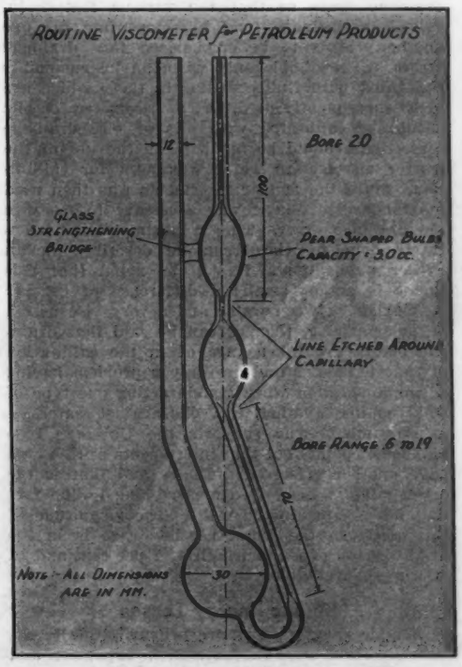
Loading Errors

If the operator fails to charge the correct volume of fluid into the viscometer each time, an error is introduced because of the fact that the average driving fluid head is dependent upon the quantity of fluid in the instrument. However the magnitude of this error is very small. As a specific example, suppose the operator should charge an excess of v cc. into the viscometer this would cause the working level in the lower reservoir to change $\frac{v}{\pi r^2}$ centimeters (where r is the working diameter of the lower reservoir) with a net result that the driving head would be decreased by this same amount, $\frac{v}{\pi r^2}$ centimeters. However, the percentage error in this figure divided by the total driving head H and hence the expression for loading error is:

$$\% \text{ error due to errors in loading} = \frac{100\ v}{\pi r^2 H}$$

The instruments are constructed with a working radius of about 1.5 cm. and driving head of about 10 cm. so that in order to introduce an error of 0.5 per cent by the above equation v must be 0.35 cc. It is utterly impossible to make an error of this magnitude in loading the instrument for this would mean missing the etched line on the capillary by more than 10 centimeters whereas it is a simple matter to bring the oil level to within a millimeter or so of the loading mark thus reducing loading errors far below a tenth of a per cent. In spite of this extreme insensitivity to loading errors Ubbelode[2] offers his suspended level viscometer which is a further modification of the Ostwald type of instrument primarily to eliminate loading errors with the net result that a more fragile and complex instrument is obtained with no advantages other than the elimination of this very small error.

Furthermore loading may be done at room temperature because the coefficient of thermal expansion of oils is such that the room temperature can vary 20° F. before an error of 0.1 per cent is introduced. This means also that the viscometer constant changes very little with temperature and consequently the constant for the instrument at 210° F. will be different from the constant at 100° F. by about 0.4 per cent. The exact variation of the viscometer constant depends upon the dimensions of any particular viscometer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NOTE - ALL DIMENSIONS ARE IN MM.

Fig. 2—Routine viscometer for measuring the viscosity of petroleum products

but is very simple to calculate. For example, consider a typical routine viscometer with a charging volume of 6.0 cc., a lower reservoir of 3.0 cm. in diameter and an average driving head of 10 cm. A cubic centimeter of oil (of high, low, or medium viscosity index) will expand about 0.045 cc. by a temperature change from 100° F. to 210° F. The total change in volume will obviously be 6×0.045 or 0.270 cc. and this will raise the level in the lower reservoir by $\frac{0.27}{(\pi)\ (1.5)^2}$ or 0.038 cm. Since the total driving head is 10 cm. the percentage change in the viscometer constant in going from 100° F. to 210° F. amounts to $\frac{0.038}{10} \times 100$ or 0.38 per cent. Thus it is seen that changes in oil volume due to changes in temperature produces the same effect as variations in filling the viscometer with the correct amount of oil. The magnitude of this factor may be further reduced by employing a small Erlenmeyer flask for the lower reservoir thereby obtaining a larger diameter. This was done in the construction of the master viscometers but is not recommended for the routine instruments in as much as the factor is already small and readily computed.

Drainage Errors

Drainage errors arise from the fact that a fluid will not drain completely from the wall of an instrument. Hence the efflux bulb will not discharge the total volume of oil drawn into it. However, it is not the total drainage volume that is of importance but rather the differences which may exist in the drainage characteristics of fluids to be run in the viscometer when compared to fluids that were used to calibrate it. A large number of drainage measurements were made in this laboratory and proved that there are no appreciable differences in the magnitude of this factor from one oil to another when used in the same viscometer. It is quite obvious that in any given instrument the more viscous oils have longer drainage times so that the various factors involved in drainage tend to compensate for one another. It is to be emphasized that drainage errors are negligible only when an instrument is calibrated with fluids similar to those which are to be subsequently used, i.e., a viscometer for oils should be calibrated with oils or else drainage corrections should be applied. In the use of the master viscometers water was used for calibration. Since the master viscometer was then used to standardize oils it was necessary to measure the drainage error. This was simply and accurately done by the technique described in an earlier publication[3]. It will be noted that this factor is rather small; a difference of 0.3 per cent exists between water and a very viscous oil. In summarizing, then, it can be said that drainage errors are taken care of in the calibration of the viscometer and are only a problem having a simple solution when standardizing one type of fluid against another, e.g., oils against water.

Fitzsimons[2] who supports the Ubbelode type viscometer points out that instruments of this type have another effect of drainage and that is the driving liquid head is decreased due to the fact that oil adheres to the walls. The magnitude of this effect in the worst possible case is in the neighborhood of a hundredth of 1 per cent and is, of course, negligible.

Kinetic Energy Losses

Kinetic energy errors are primarily due to the losses in fluid head encountered in expansion and contraction of the fluid stream at the entrance and exit of the capillary. Such losses are a function of the shape and dimensions of a viscometer and can be estimated by the quantity $\frac{m\,U^2}{g}$ which gives the factor in units of centimeters of fluid head. There is a wide disagreement among the various investigators as to the correct value of m. Values ranging from m = 0.5 to m = 1.12 have been reported[4]. The correct value of m is probably intimately associated with the shape of the exit and entrance portions of the capillary. Thus Bingham[5] found m to have a value of 0.56 for trumpet shaped openings and a value of 1.12 for capillaries which were cut off square at the ends. Fortunately, the design and operating characteristics of the routine viscometers described here are such that regardless of the correct value whether it be 0.5 or 1.12, this possible error due to kinetic energy effects will be very small. It will only be appreciable for the viscometers of small bore such as are used on extremely light oils. However, even in this case it can be held within negligible limits by employing a viscometer of such dimensions than an efflux time of 200 seconds or more

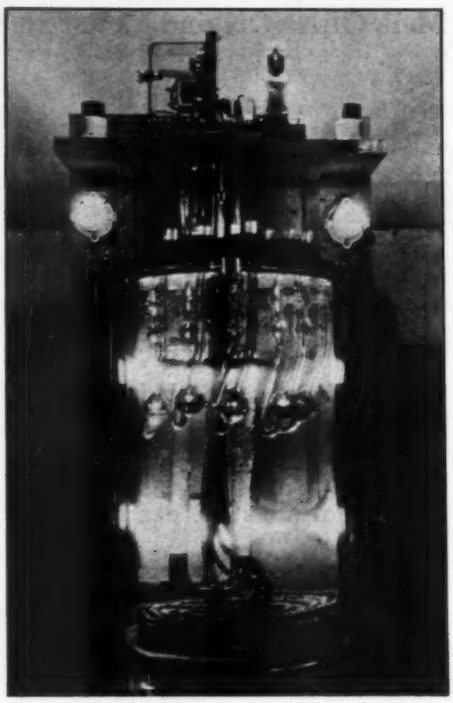

Fig. 3—Constant temperature bath. Automatically controlled and operable at both 100° F. and 210° F. or temperatures between

is obtained. To illustrate this point in a more specific manner, the following few remarks are pertinent. The capillary diameter employed in instruments of this design for light oils is about 0.70 mm. (by light oils is meant oils of about 35 Saybolt seconds). The working volume is 3 cc. and for an efflux time of 200 seconds the average velocity in the capillary is obviously

$$\frac{3.0}{(\pi/4)\ (0.07)^2\ (200)}$$

or 2.4 cm. per second. Hence the kinetic energy effect is $\frac{m\ (2.4)^2}{g}$ centimeters or a percentage loss of $100\ \frac{(m)\ (2.4)^2}{g\ H}$ per cent. The fluid head of these viscometers is about 10 centimeters and if m is taken as 0.56 (since these instruments have trumpet shaped openings) the percentage loss amounts to $\frac{(0.56)\ (2.4)^2 100}{(980)\ (10)} = 0.14$ per cent. This effect is of no appreciable magnitude when working with medium or viscous oils but only comes into play when non-viscous materials (30-35 Saybolt seconds) are being evaluated. It is a rather simple matter to change the dimensions of a viscometer to further reduce this error. For example, there are master viscometers in use in this laboratory where this factor has been reduced to 0.1 per cent for such a non-viscous fluid as water.

Before leaving this discussion it might be mentioned that the Couette effect i.e. the apparent increase in capillary length by the issuing stream[4] for any particular viscometer of this type is not only of negligible magnitude but is taken into account naturally in the calibration of the routine viscometer.

Surface Tension

Differences in surface tension of different types of oils is not great enough to introduce an error of any appreciable magnitude. Surface tension can be defined by the equation:

$$S.T. = \frac{r\ h\ d\ g}{2}$$ (where h is the rise of a fluid of density d in a cylinder of radius r. g is the gravitational constant). From this equation it obviously follows that two fluids of different surface tensions would effect the driving head by the following amount:

$$\Delta H = \left[\frac{2}{g}\right]\left[\frac{(S\,T_1)}{d_1} - \frac{(S\,T)_2}{d_2}\right]\left[\frac{1}{r_1} \quad \frac{1}{r_2}\right]$$

It is a factor which only becomes appreciable when an instrument is calibrated and used on fluids which differ by a very large margin in surface tension. In the above expression r_1 and r_2 refer to the working radius of the upper and lower reservoirs respectively and d_1 and d_2 to the densities of the two fluids.

Alignment Errors

If a viscometer of this type is not mounted in a vertical position the effective head will be decreased, thereby directly introducing an error. The magnitude of this error is dependent upon the manner in which the viscometer is constructed. If the center of the upper working bulb is joined to the center of the lower reservoir by an imaginary line and this makes an angle with the verticle of A degrees and if it should be moved by dA degrees then the resultant fractional change in head can be shown by elementary trignometry to be given by the expression

$$1 - \frac{\cos\ (A+dA)}{\cos\ A}.$$

The percentage change in head will be

$$100\left[1 - \frac{\cos\ (A+dA)}{\cos\ A}\right].$$

In order for this factor to amount to 0.1 per cent it will be necessary to tilt the viscometer 2 degrees and 34 minutes of an arc when A is zero, i.e. when one bulb is directly above the other. However in some current viscometers where one point is 10° from the vertical it would be necessary to depart from the specified alignment by only 19 minutes of an arc to cause an error of 0.1 per cent. The fact that when angle A is zero the viscometer is least sensitive to alignment errors is the reason for the placing of one bulb directly over the other in these routine viscometers. Small plumb bobs made from a piece of solder wire and silk thread enable one to align the viscometer in the bath in a few seconds.

Other Factors of Secondary Importance

Any variation in the gravitational constant from the place of calibration to the place of usage will directly affect the instrument. This effect is of very minor importance in as much as the gravitational constant varies slightly throughout the United States. However it is a simple matter to make corrections. This is done by multiplying the viscometer constant by the ratio of the gravitational constant at the point of usage to that at the point of calibration. The acceleration due to gravity has a value of 980.124 at State College, Pa., and there are few points in the United States that differ from this figure by more than 0.1 per cent.

The question of inertia affects or the amount of energy used in imparting a definite velocity to the fluid is also one of negligible magnitude. It is naturally taken care of in calibration but it could be a source of error if it were great enough to vary with the manner in which the timing operation was started. That is, if the fluid were brought just up to the etched line and started

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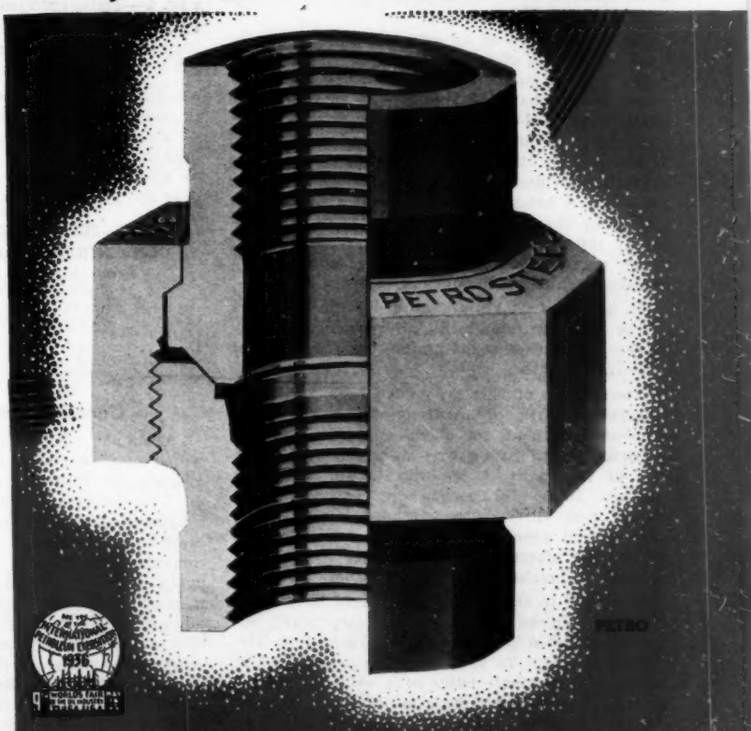

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from a point of rest or if it were taken beyond the point of start and timed just as it passed the etched line the two modes of operation might yield different results. However, this factor is not large enough to vary with these two methods of starting and either may be employed. In addition the mass of oil for a given volume does not vary enough for different types of oils to be of any consequence at all in regard to inertia effects in these viscometers.

TABLE 1—THE EFFECT OF SMALL TEMPERATURE CHANGES ON VISCOSITY MEASUREMENTS

Vis. at 210°F. in centistokes	Vis. at 100°F. in centistokes	Viscosity index	Vis. at 130°F. in centistokes	Vis. at 80°F. in centistokes	Avg. % change in vis. per 1°F. change in temp. over range 100-80	Avg. % change in vis. per 1°F. change in temp. over range 210-130
4.36	24.95	100	6.16	41.92	3.4%	1.38%
4.36	24.08	0	6.48	64.95	4.5%	1.62%
15.81	176.3	100	25.68	365.7	5.4%	2.1 %
15.81	362.2	0	39.12	957.4	8.2%	2.8 %

Note: The viscosity of water in the neighborhood of 20° C. (68° F.) changes about 2.5 per cent per 1° C. or 1.4 per cent per 1° F. change in temperature.

General Comments

A simple point frequently overlooked is that the reliability of results obtained on any instrument cannot possibly be any more exact than the accuracy of the standard fluids used to calibrate the instrument. Thus the paradoxical situation frequently occurs where an investigator heralds a new viscometer designed to eliminate some error with a magnitude of a few tenths of a per cent, and it is then calibrated with fluids which admittedly are reliable to only 1 or 2 per cent.

Again the results are limited in accuracy by the reliability of auxiliary equipment. Thus a viscometer which is claimed to give viscosities of oils to an accuracy of 0.1 per cent could not possibly be relied upon to that extent unless the temperature of the oil was known and maintained constant to the extent indicated by Table 1. The data in this table were taken from the A.S.T.M. viscosity-temperature chart for two types of light and heavy oils. The units were converted to kinematic viscosity from the conversion tables reported by McCluer and Fenske[6]. From Table 1 it is evident that the precision to which the temperature must be known and maintained constant depends upon the type of oil as well as the temperature level. For low viscosity index oils at 100° F. it is evident that a temperature variation of 0.1° F. (0.05° C.) would cause an error of from 0.5 to 0.8 per cent. This factor becomes less important at the 210° F. level but if measurements are to be made at temperatures lower than 100° F. it becomes a very important factor.

The measurement of efflux times is usually done by stopwatches or stopclocks that are reliable to no more than 0.2 seconds. This of course means that an efflux time of at least three minutes is needed in order to keep this factor negligible. It has been noted by Washburn and Williams[7] that the personal reaction time for the average individual is in the neighborhood of 0.02 seconds and hence the limitation is that imposed mainly by the timing device. The mere increasing of the speed ratio of a second hand is not to be accepted for increased accuracy without checking against reliable sources.

It is well to maintain accurate thermometers as the reference standards for periodic checking of the thermometers maintained in the constant temperature baths.

Viscometers of this type have been used over a period of years for hundreds of viscosity measurements. With all the cleaning cycles necessary the original calibration was maintained. For the case of oils a light naphtha is sufficient for cleaning. In several cases where viscometers had become very dirty with extended use a dilute chromic acid solution was employed for cleaning and had no affect on the viscometer constant as evidenced by rechecking the calibration.

In regard to the standardization of calibrating oils it should be remarked that practically all conventionally refined motor oils change in viscosity with age. To illustrate this point the viscosity-ageing characteristics of a conventional refined oil are presented here as Table 2. The oil was kept in a well stoppered bottle. The steady increase in viscosity with age is evident. Over a period of six months it had increased by more than 1 per cent. This particular oil was considered for use as a viscosity standard until its instability became evident. It should serve to emphasize the point that there should be used some stable easily obtainable fluid for an ultimate viscosity reference basis. For this purpose water is ideal. A simple master viscometer is all that is needed to enable water to be used as the ultimate basis for standardizing oils. With such a stable fluid, the master viscometers can be checked at definite periods and then these instruments used to check the calibrating oils. Hence the master viscometers need only to be used once in six months or a year to make sure the standard oils have not changed with age. Such a procedure is employed in this laboratory.

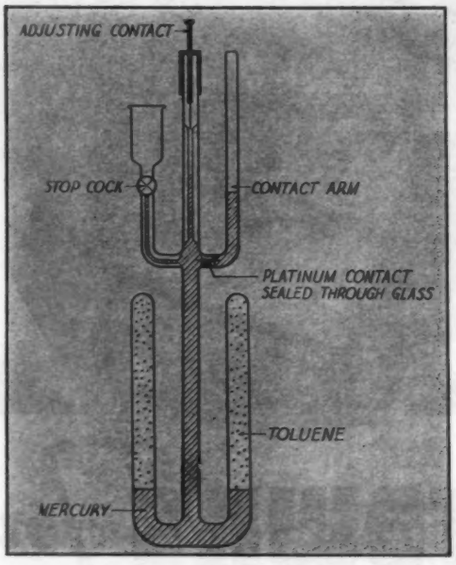

Fig. 4—Thermoregulator which can be quickly set at desired temperature without removing the apparatus from bath

The standard oils used in this laboratory have been found to be very stable. They were treated by aluminum chloride and over a period of one year the maximum change was about 0.2 per cent.

TABLE 2—THE VARIATION OF VISCOSITY OF A CONVENTIONALLY REFINED OIL WITH AGE

Date of run	Efflux time in seconds at 100°F.	Viscometer constant	Viscosity in stokes at 100°F.	Vis. in S.U.S. at 100°F.	Per cent increase in viscosity
7/28/34	477.0	1,056	0.5411	295.6	basis
9/ 8/34	478.8	1,056	0.5428	295.7	0.27%
2/28/35	486.3	1,056	0.5499	300.5	1.33%
3/17/35	489.6	1,056	0.5530	300.7	1.86%

Constant Temperature Baths

A simple, accurate constant temperature bath which may be operated at 100° F. or 210° F. or any intermediate temperature is shown in Figure 3. This bath is particularly suitable for use in conjunction with viscosity measurements. It is capable of holding a half dozen or more viscometers at one time. It consists of two large pyrex cylinders placed one within the other for insulation purposes and a machined hard rubber top with holes to receive viscometers. On the bottom of the inner cylinder two pancake spiral copper heating units are placed. One of these serves as a fixed heater to keep the bath within a few degrees of the desired temperature while the other operates through a relay circuit that is controlled automatically by a thermoregulator.

Water may be used at all temperatures as the bath medium. Even though 210° F. may be a few tenths of a degree from the boiling point (in localities of low barometric pressure) evaporation loss is reduced to a negligible figure by spreading a thin layer of a motor oil over the top of the water. Sufficient stirring at 210° F. obtained by the convection currents which are set up. This can be seen visually by the rapid movement of dust particles in the water and can be proved by exploring the bath by means of a very sensitive thermometer. Or if desired, a simple motor stirrer may be used to further augment circulation in the bath.

The heating units are placed across 110 volts A.C. and have variable rheostats as well as fixed resistors in series with the heaters so that temperature may be controlled at 100° F. or 210° F. or any intermediate points in a simple manner. The relay circuit is capable of handling 10 amperes or more so that in the initial heating up stage all of the current from both heaters can be switched through the relay. This means the unit needs no supervision at all in the preheating stage for as soon as the temperature to which the thermoregulator is set is reached all of the heat will be thrown off. Hence rough regulation will take place by the thermoregulation relay circuit until the operator switches the fixed heater off the relay and introduces the close control heating circuit by another switch. If one temperature is to be used a great deal, the unit can be allowed to stay at this temperature continually without shutting down over night. Even if the relay should fail to function there would not be enough excess heat to do more than vaporize some water.

Stirring at 100° F. and 130° F. is accomplished by blowing air through an alundum porous tube or again by a simple motor stirrer. The use of air as a means of stirring has been found to be very efficient and satisfactory and has been employed in a number of constant temperature baths over a period of years.

It is desirable to employ water as a bath medium because of the excellent visibility afforded as well as the fact that it costs practically nothing and does not darken with age. In connection with bath mediums Fitzsimons[8] remarks that a vapor bath at its condensing point affords better heat transfer due to the fact that condensing liquid films have a much lower resistance to the flow of heat than that presented by a liquid film. However, the important point is that the major resistance to the flow of heat is the relatively stagnant oil film within the instrument itself and hence it is unreasonable to expect great reduction in heating times by the use of a vapor bath. Again, this phase of the matter is not important for the time necessary for the oil sample to attain bath temperature is only seven or eight minutes regardless of what type of medium is employed. Since the operator can use more than one instrument this time is not wasted. One viscometer can be heating while another is being cleaned and charged, etc.

The bath has been operated with a bimetallic type of thermoregulator although a mercury type or mercury-toluene type affords greater sensitivity. It is a rather simple matter to construct a mercury-toluene type of regulator that can be operated at 100° F., 130° F., or 210° F. very conveniently. These can be made with screw type setting contacts so that adjustment and change from one temperature to another is readily done without removing the thermoregulator from the bath but simply by turning a stopcock and adjusting the movable contact. Figure 4 is a sketch of a suitable type. The closed legs are filled with toluene and the central leg is filled with mercury. When changing from one temperature to another the stopcock on the reservoir arm is either opened or closed to emit or remove the requisite amount of mercury. Toluene expands so much that a large capillary may be used and yet retain sensitivity. Regulators of this general type have been in use for years with very satisfactory performance. Many liquids other than toluene may be employed although toluene is satisfactory up to 210° F.

The relay unit is operated by a thermoionic tube. This application was developed by E. M. Fry of this laboratory. With this unit current as low as 10^{-9} amperes in the thermoregulator circuit operates the relay. As a consequence there is

never any sparking at the mercury contact in the thermoregulator so that the mercury makes and breaks cleanly. The whole unit is simple and compact, no transformers or direct current source is necessary. It is simply attached to 110 volts A.C. and then binding posts are connected to the heating units and thermoregulator circuit. The only part which it is necessary to replace once or twice yearly is the vacuum tube. These cost about 60 cents and last many months when worked 24 hours per day. A relay has been operating continuously for nine months without trouble or need of tube replacement. In addition to the advantage of extremely low operating current through the thermoregulator circuit these control units are considerably cheaper than more conventional equipment.

Finally it should be remarked that the entire viscometry equipment outlined in this paper are not only as accurate or more accurate than any available but the entire equipment including constant temperature baths are no more expensive than other viscometers recommended for petroleum products.

Acknowledgement

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Tractor Meeting Is to Be Held by S.A.E. in Milwaukee

Tractor, agricultural and industrial power equipment engineers, executives and users will meet in Milwaukee on April 15 and 16 to participate in the program of the fourth general tractor meeting to be held by the Society of Automotive Engineers in the last three years. The meeting will be under the auspices of the tractor and industrial power equipment committee of the society, of which A. W. Lavers, chief engineer of the Minneapolis Moline Power Implement Co., is chairman, and Elmer McCormick, chief engineer of the John Deere Tractor Co., is vice chairman.

Elmer McCormick, of the John Deere Tractor Co., will preside at the Wednesday morning session, and E. L. Roettiger, state highway engineer for the Wisconsin State Highway Commission, will present a paper on the use of tractors and industrial power equipment in highway maintenance and construction.

The Thursday morning session, at which A. T. Colwell, of the Thompson Products, Inc., will preside, will be devoted to a very interesting paper by R. W. Young, of the Wright Aeronautical Corp., on engine performance and means for obtaining maximum fuel economies.

The afternoon session with O. E. Eggen, of the Oliver Farm Equipment Co., presiding, will also be devoted to fuels.

Molybdenum Not Volatilized

In the closing paragraph of an article by H. D. Newell, "Modern Refining Requires Use of Alloy Steels for Equipment," which was published in the February 20 issue, page 34, the statement, "thus showing the great decrease in strength that accompanies the volatization of the molybdenum," is incorrectly worded. There is no measurable quantity of molybdenum volatilized from this steel at a red heat, due to a sufficient amount of chromium being present, and this decrease in creep strength occurring between 900° F. and 1,200° F. is similar to that which occurs in all steels subjected to a similar increase in temperature.

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New Groups Aid Advancement of Industrial Welding

Plans to expand its organization for the advancement of welding research are announced by the welding research committee of the engineering foundation, of which Prof. Comfort A. Adams of Harvard University is chairman. Under the direction of Col. C. F. Jenks, commanding officer of the Watertown, Mass., arsenal, a new industrial subcommittee to coordinate industrial welding research in this country has been formed. Already 60 investigations, guided by a subcommittee on fundamental research, were reported to be under way in universities alone. Many more researches are going forward in industrial and federal laboratories.

Seven divisional committees are being organized to work with the subcommittee headed by Colonel Jenks in studies of special fields. J. H. Critchett, vice president of the Union Carbide and Carbon Research Laboratory, New York, has been named chairman of a committee on the welding of low alloy steels. H. C. Jennison, technical manager of the American Brass Co., Waterbury, Conn., will be in charge of a study of copper alloys.

J. C. Hodge, chief metallurgist of the Babcock & Wilcox Co., Barberton, Ohio, will direct investigations in carbon steel welding. Four other groups, the members of which are now being selected, will deal with cast iron, high alloy steels, aluminum alloys, and nickel alloys.

Announcement was also made of the formation of three functional subcommittees of the industrial committee. Prof. M. F. Sayre of the department of applied mechanics, Union College, has been named chairman of a methods of testing committee; W. D. Halsey, assistant chief engineer, boiler division, Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn., of a committee on the analysis of weld failures; E. Chapman, vice president of Lukenweld, Inc., Coatesville, Pa., of a committee on weld stresses and their causes and effects.

A subcommittee on literature, of which Mr. Critchett is chairman, is at work on a critical digest of the world's welding literature, which it is planned to publish in the interests of American industry. The subcommittee on fundamental research, with H. M. Hobart, consulting engineer of the General Electric Co., as chairman, is fostering welding research in universities.

"Today welding is the most important and most widely used method in industry, and in nearly all of its applications notable savings are effected by superior quality of product," Professor Adams said in a statement explaining the project, which is sponsored jointly by the American Welding Society and the American Institute of Electrical Engineers.

"However, the welding problem is so complicated and the temptation to effect economies is so great that the welding of structures has sometimes been undertaken without a thorough knowledge of the problems involved. Most of the literature of importance is of very recent date, scattered throughout a wide range of publications, and in many languages, with the result that most of it is not available to those actively responsible for the planning and conduct of important welding operations.

"It is the intent of the committee on industrial research, under the chairmanship of Colonel Jenks, to make a thorough canvass of the investigations under way, contemplated, or needed by industry without interfering in any way with investigations of a confidential nature. The universities will cooperate by conducting worthwhile investigations, other than the 60 already in progress, as may be needed by industry, although specific assignment may, in many cases, be made to industrial and governmental laboratories.

"Welding and its related methods for cutting metals are undergoing astonishing developments. The variety and flexibility of their applications make them available for use in constructing bridges, frames of buildings, ships, pipe lines, boilers, and other pressure vessels, machines, and many other things, down to small utensils and parts of apparatus, and also for repairing and salvaging."

William Spraragen of New York, secretary of the main welding research committee, estimated that not more than 25 per cent of the possibilities of welding have been fully explored. Welding and related metal cutting methods can be very useful in repairing the damage done by the recent floods, he pointed out.

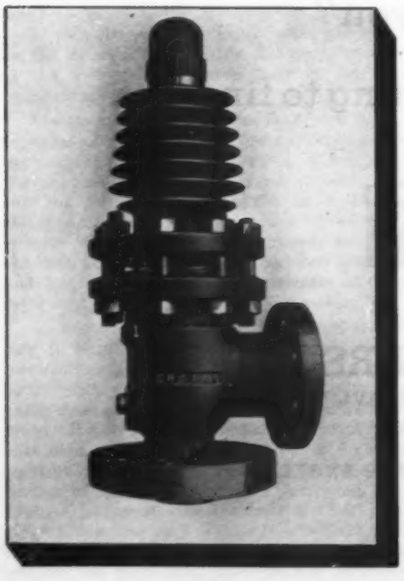
"Gradually the application of welding has been extended to all metals and their alloys, and from thin tubing for aircraft structures to heavy vessels 5 inches or more in thickness designed to withstand severe service conditions," Mr. Spraragen explained. "Complex problems have resulted, involving the necessity for cooperative action. Welding has made continual and rapid progress in the shipbuilding field. Welded barges are rapidly becoming the standard method of production. There are in existence a number of all-welded ships of the smaller size that have had continuous service for the past 15 years. Naval treaties have forced all the leading nations of the world to make the maximum use of welding in naval vessel construction in order to save weight. A new era is now well under way in the steel and metal industries, due primarily to the development of high-strength material which results in lighter-weight construction, improved quality, and economies in cost.

"The first applications will of necessity be in places where savings will result, but gradually the use of these superior materials will creep into every form of construction. Engineers and the industries must of necessity keep abreast of the latest developments, and as the reliability of these products are demonstrated, their use will increase."

Germany, according to engineers, was quick to recognize the advantage of welding and by substituting this method for the riveting of plates, has effected large economies in the upbuilding of her navy.

Members of the main welding research committee, in addition to Professor Adams, Colonel Jenks, Mr. Critchett, Mr. Hobart and Mr. Spraragen are: Frederick T. Llewellyn, research engineer of the United States Steel Corp.; John J. Crowe, engineer-in-charge of apparatus research and development department of Air Reduction Co.; David S. Jacobus, advisory engineer of the Babcock & Wilcox Co.

The rate at which some greases are cooled after being discharged from the kettle, controls to a large extent the properties and consistency of the finished products. The above is a view of a batch of grease being cooled in the grease plant of the Quaker State Oil Refining Corp. The grease is cooled in shallow pans to provide a uniform rate of cooling



2000 lbs.—1000°F.—tough conditions for a relief valve, but not too tough for a Crosby. No weakening of the spring—no lowering of pop pressures—because the spring is in a fin-cooled chamber away from the valve body. No coking-up and sticking—because the valve disc guides are outside the nozzle and out of the vapor. There's a Crosby Relief Valve for every oil industry service. Write for bulletins.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Quantity of Free Sulfur Used in the Refining of Light Oils

Could you give us the quantity of free sulfur that is used per annum in the petroleum industry in the United States? What use is made of this sulfur?—M. L. H.

The literature available does not show any figures indicating the quantity of free sulfur used in the United States by the petroleum industry. Inquiries addressed to the U. S. Bureau of Mines, the Bureau of the Census and some of the important producers of sulfur have indicated that no data are available showing the quantity of elementary sulfur consumed in this country for the refining of petroleum products. The Canada Department of Trade and Commerce has published a report giving the quantity of products used during the year 1934 in the petroleum refineries of Canada. The quantity of sulfur as given is 117,279 pounds. When comparing this with the volume of oil run to the stills, it is possible to calculate the per barrel of oil unit and then apply this to the volume of oil refined in the United States for the purpose of obtaining an estimate of the quantity required by the refineries.

Free sulfur is used in what is known as the doctor treatment, sweetening, of light oils, gasoline and kerosene, for the conversion of the corrosive and malodorus sulfur compounds (mercaptans) to the noncorrosive and odorless substances (disulfides). The Canadian oils are similar in quality to the average of the oils produced in the United States, so it appears a reasonable assumption to conclude that the per barrel consumption for Canada would be very close to the quantity of sulfur used for the same purpose in the refineries of the United States.

The Dominion Bureau of Statistics reports that the refineries of Canada charged to their stills in 1934 the total of 31,780,295 bbls. of oil, the raw products requiring the addition of 117,279 pounds of sulfur; therefore, the quantity of free sulfur consumed was 0.00372 pound per barrel of oil. The run to stills in the United States during 1934 was 895,636,000 bbls.; therefore, at 0.00372 pound per barrel, our consumption of free sulfur is estimated to have been 3,391,796 pounds for that year.

For the purpose of this estimate it has been considered that all of the free sulfur (powdered sulfur and brimstone) has been used for treating the light oils; however, a small quantity is used in making some special greases and also a relatively very small quantity for the preparation of special insecticide solutions.

References: U. S. Bureau of Mines, Petroleum Industry, 1934, December, 1935. The Petroleum Products Industry in Canada, Canada Dept. of Trade and Commerce, Dominion Bureau of Statistics, 1934.

Control of Paraffin Deposits in Surface Lines and Wells

We have trouble with wax deposits forming in the pipe line to our plant, about 2 miles, before the oil is delivered to the storage tank. The operators also are bothered in the field by the wax stopping up the tubing in the wells and lines to the storage tanks. Is there any chemical material to be used or method that will correct this condition?—C. R. P.

Surface lines through which oil is delivered to storage or refineries may usually be kept free of wax deposits by frequent passage of a mechanical cleaner or "go-devil." Frequently a solvent is found to be more satisfactory, following a practice similar to that described below for oil wells.

There are several special solvents that are marketed for the purpose of either removing wax deposits from lines and wells or preventing the formation of such deposits. A very good solvent for wax is gasoline, also the cheaper material distillate, meaning the fraction between kerosene and gas oil. The organic wax solvents are usually too expensive, have the disadvantage of not being paraffin hydrocarbons and may not blend freely or may introduce objectionable features into the oil such as color or a bad odor. Gasoline and distillate dissolve the wax to form a solution which blends freely with petroleum without adding color or odor.

The temperature of the oil at the bottom of a well is usually too high to permit accumulations of wax, the deposits commonly forming in the tubing at a considerable distance up the hole. A deposit may be produced in a well wherever there is a cooling action due to the expansion of gas or where it comes out of solution when the pressure is released.

The method for removing wax from wells is to pump the gasoline, distillate, or other solvent into the hole, then surge the fluid up and down a number of times to wash the flow string its entire length, finally the well is put on production. The solvent may be circulated down through the casing and up the tubing, completing the cycle enough times to produce satisfactory results.

References: The Oil and Gas Journal, Harold K. Ihrig, Greenwood County, Kansas, Operation Build Efficient Paraffin Treating Unit; November 21, 1935, page 26. Petroleum Solvents Used to Remove Paraffin Deposits in Flow Strings; December 5, 1935, page 37. See also Paraffin and Congealing Oil Problems, by C. E. Reistle, Jr., U. S. Bureau of Mines, Bulletin 348, 1932.

SPECIFICATIONS

U. S. NAVY AVIATION GASOLINE

FOUR GRADES

Octane number	73, 80, 83, 87
Requirements common to the four grades:	
Water and foreign matter	Nil
Freezing point, maximum	—76° F.
Acid heat test, maximum	20° F.
Gum, accel. test, maximum	10 mgm.
Corrosion, copper dish	No gray or black
Sulfur, total, per cent	0.10
Color, all blue except 73 octane, which requires minimum	+25 Say.

Distillation—Condensed, minimum, 10 per cent at 167° F., 50 at 212, 90 at 275. Residue, maximum 2 per cent.

Vapor pressure, maximum ..... 7 lbs. at 100° F.

Grade and octane number	Ethyl fluid permitted cc./gal.
73/87	5
80	2.5
83	3.5
87	5.0

The 73 grade must be petroleum gasoline only and free from knock suppressors. Aromatic hydrocarbons permitted in other grades.

Reference: Tentative Aeronautical Specification M-222, September 15, 1934. Revised January 15, 1935, Bureau of Aeronautics, Navy Dept., Washington, D. C.

The Soluble and Cutting Oils, Their Preparation and Utilization

I am interested in obtaining some information concerning the nature and the preparation of soluble oils. Also about cutting oils. What oils are used for this purpose?—L. K.

The name soluble oil does not mean that the product is entirely soluble in water, but generally means an oil mixture which forms a quite stable emulsion when thoroughly agitated with water. A lubricant may be prepared that will be completely soluble but it is of vegetable or animal origin. The ordinary soluble oils are mixtures containing petroleum oils, usually of the lubricating oil fraction.

Soluble oils are normally mixtures of soap, vegetable or animal oil and mineral oil. The soap is made from a saponifiable of the same general character as the oil blended with the mineral oil. The oils suitable include lard oil, linseed oil, sulfonated castor oil, castor oil, cottonseed oil, rape seed oil, resin and rosin oil.

The proportions of these that may be used are soap under 20 per cent, mineral oil under 70 per cent and saponifiable oil less than 15 per cent. Some soluble oils contain excessive quantities of water, sometimes as much as 50 to 70 per cent.

The soluble oils have a special application in the textile industry for the reason that should the oil spot the yarn or cloth, it is readily removed in the ordinary washing, which is a part of the finishing operation. These oils are also known as stainless oils.

The cutting oils are soluble oils used for the dressing and cutting of metals. They are used either as prepared or dissolved in warm water.

Thomsen gives, in Practices of Lubrication, a list of cutting oils from which the table has been arranged.

CUTTING OILS AND THEIR USE

Compound, and %—	Viscosity Say. @ 100°F.	Acidity % as oleic	Speed, cutting and material
		below	
Cottonseed, 50	65	6	Slow, hvy. T*
Ex. No. 1 lard, 50	125	3	High, mdm. & hvy. T
Ex. No. 1 lard and tinged lard, each 15	160	2	High, mdm. & hvy. T
Tinged lard or No. 1 pale whale, 12.5	160	1.5	High, light & mdm. T
Same, 6	125	1.0	High, light T

*T=tough.

An oil suitable for use as a cutting oil may be prepared as follows:

Lubricating oil—100 vis. (lbs.)	85
Oleic acid (lbs.)	8

The acid is mixed with about 10 pounds of the oil until a uniform mixture is obtained.

Triethanolamine (lbs.)	2½

Stir into the above and then add water as desired.

Many soluble oils contain resin, one of these may be made by this formula:

Resin (lbs.)	7.5
Lubricating oil, 100 vis. ((gals.)	8.0
Oleic acid (lbs.)	6.0
Caustic soda sol., 32° Be. (lbs.)	4.0
Alcohol (lbs.)	2.1

This will make about 10 gallons. Heat about 3 pounds of the oil to 220° F., add the resin with stirring until dissolved. Then add the acid and the rest of the oil. Stir in the caustic solution. When cool, add the alcohol.

PROBLEMS FROM READERS

Edited by T. F. Smiley

Salt Water Run Back Into Formation But Outside the Producing Area

Can you tell me anything concerning a plan which I was told a year or so ago was to be tried out in Kansas for getting rid of salt water in oil fields? This plan, as it was described to me, consisted in running the salt water back into the formation it came from. That doesn't look practical to me. What do you gain if you run the water back to the place it came from? If the plan was actually tried out, I would like to know what success it had.—G. G. E.

The plan of returning salt water to underground formations is in operation in Kansas oil fields following action of the state legislature in passing laws permitting this practice wherever the formation will take the water and where the formation does not already contain domestic water. Operators are prohibited from dumping oil field brines into surface streams or running them into pits, to be disposed of during high-water periods.

In the Burrton pool, where most of the wells producing from the Hunton lime are making water, this water is being returned, not to the same formation it comes from but to a porous section of the Wellington formation. First the water, along with the oil, is delivered into tanks, where treating compound is added. The water separated from the oil then is run into seven water-disposal wells by gravity. It was taken freely by the formation according to the latest reports received.

In the Russell pool, producing from the Oswald lime, salt water is being returned to a formation about 500 feet below the surface. In the Niedenthal pool, also in Russell County, water input wells are drilled about 415 feet deep. If the formations now open should cease to take water at any time it is planned to drill the hole deeper, as there is another porous sand at about 450 feet. In each of these pools the formation to which the water is being sent is not producing oil.

Some engineers do not approve of this method of disposing of oil field brine, pointing out the possibility that it may break through into the oil-producing formation. This is reported to have occurred in the Hendricks field, where salt water was run into a cavernous formation above salt beds. The water found its way into the salt beds, dissolved the salt and eventually built up enough hydrostatic head to cause it to break into the oil formations. Thus it became necessary to pump it from the wells again.

Hollow-Rod Equipment Is Adapted to Fields Where the Oil Is Heavy

Under just what conditions is the hollow-rod method of pumping valuable? I would appreciate it if you would advise me what the equipment is composed of and how it is operated. I never have seen the method used in this region. Perhaps it is not adaptable to all fields. I would like to know about that.—E. S. S.

Hollow-rod pumping equipment, referred to also as a "macaroni string," is sometimes used where large quantities of fluid must be handled, more particularly where the oil is heavy and accompanied by large volumes of sand and water. Where this method is used the fluid (oil and water) passes through hollow sucker-rods, or water is introduced through them from the surface under pressure to increase the velocity of the fluid through the tubing to help in removal of suspended sand. The method is used in certain Mid-Continent, Gulf Coast and California wells.

The hollow-rod method, says H. C. George in his book, "Oil Well Completion and Operation," employs hollow sucker-rods which are coupled to a steel plunger by means of a so-called "closed cage." The working barrel is usually 3¼ or 3¾ inches in diameter for use on 3½- or 4-inch tubing. The working valve is generally placed on the bottom of the steel plunger, eliminating the garbutt attachment, although a closed-cage working valve may be used above the plunger and the garbutt attachment retained.

The hollow rods used are nothing more than special external upset tubing, either 1¼- or 2-inch. Special 1¼-inch upset tubing weighs 2.27 pounds per foot, and is fitted with collars of 2.2 inches external diameter. The smallest size of regular tubing with which 1½-inch upset tubing (hollow rods) can be used is 3 inches. Two-inch upset tubing is made to weigh 4.43 pounds per foot, the collars being 3.060 inches external diameter, and therefore requiring either 3½- or 4-inch ordinary oil-well tubing. The clearance with 2-inch upset tubing used as rods in 3½-inch ordinary tubing is only about one-quarter inch on each side, which is too little in the case of crooked holes.

No tubing-head nor stuffing-box is needed at the surface, as the fluid is led off by a piece of rotary hose. It is customary to run the fluid into an open sump to allow the sand and free water to settle out.

The 4-inch tubing is supported at the casing-head by the usual casing-top and tubing-ring on which the top collar rests. A 6- or 8-inch belled nipple is screwed into the top collar of the 4-inch tubing to protect the threads of this collar against wear. The upset tubing or hollow rods are suspended from the beam by a stirrup. By means of an ell, nipple, union, and another nipple, over which the hose is slipped and clamped, the fluid is led off. Because of the excessive weight of this equipment, as well as the weight of the fluid being pumped, the beam should be heavily counterbalanced, otherwise extra power will be consumed and variable pumping motion will result.

WHY THEY CALLED IT *Texas*

Texas, largest state in the Union in point of oil production as well as size, got its name from the Tejas (or Texas) Indians, among whom Alonzo de Leon and Father Manzanet, from Spain, founded a mission near the Neches River in 1690. The settlement they established was called Mission San Francisco de los Tejas. Where Texas is and how big it is, with its 265,896 square miles of territory, occupied the attention of congressmen one day in January, 1936, when Representative William A. Ekwall, of Oregon, at a meeting of the house committee on reclamation and irrigation asked, "Now, would you say Texas is in the West?" To which Representative John J. Dempsey, of New Mexico, responded, "I wouldn't say Texas is in the West. I would say the West is in Texas."

Applying Heat to Oil Emulsions and Suggestions for Reducing Them

I would appreciate some information concerning methods used to heat oil field emulsions for treating purposes. The emulsions in this field are what are called the water-in-oil kind. The proportion of the emulsion is not the same in all wells, this being attributed to differences in production practices or to the condition of equipment. I would be glad to have any suggestions that might help in keeping down emulsions.—N. E. E.

Several different devices are in use for heating crude oil emulsions in connection with treating them chemically. One commonly used in the Seminole field of Oklahoma consists of a thermostatically controlled heater, a boot or flume wash-tank and a settling-tank. The heater usually is made from an old steam boiler. A collar is welded to the under side of the barrel of the boiler about a foot in front of the rear flue-sheet to be used for connecting the intake line, and another collar is welded in the top of the dome of the boiler as the discharge connection. Fluid pumped from the wells is run into the boiler at the bottom of the barrel. It must pass upward around the flues and forward to the dome to be discharged. This action not only allows time for heating, but offers opportunity for agitating that is essential.

The method of connecting these units varies. Some operators pump the fluid produced from the wells through the heater to the wash-tank, and from that tank it flows by gravity through the settling-tank to the stock tanks.

Another method is to pump the fluid directly into the wash-tank, where a heater keeps the water hot by thermo-syphon action. The heater in this case is the barrel of an oil field type steam boiler that has been cut from the firebox of the boiler. A steel plate with a door is welded on where the barrel had joined the original firebox. Connections from the bottom of the wash-tank are led into the bottom of the heater and the discharge of the heater is connected to the wash-tank at approximately the water-oil level. The water rises as it is heated and is discharged into the tank. It is replaced in the heater by water from the bottom of the wash-tank. This cycle may be speeded or retarded by adjusting the quantity of fuel supplied to the heater. In most installations the fire is controlled by a thermostat.

Concerning measures designed to minimize the formation of emulsions it may be pointed out that contributing causes of emulsions include presence of gas or air, slippage of fluid past worn cups, plungers or liners, worn or leaky balls and seats, leaky tubing or any small orifice through which the oil and water may have opportunity to pass under the high hydrostatic pressure built up by a 4,000-foot fluid column. The emulsions can be prevented in great part by proper attention to the mechanical details of pumping and handling the produced fluid. Pumping conditions which permit free gas to be drawn into the pump are avoided as much as possible in wells that "pump off," or from which the fluid is pumped faster than it enters the hole, as this condition permits the pump only partially to fill with fluid and sets up a "churning" action with each stroke of the plunger which will emulsify the oil and water in the pump. The more of this churning the fluid receives the "tighter" and more stable the emulsion becomes.

Microscopic studies have shown that in permanently emulsified oil the water is present as minute globules ranging in diameter from .004 to 1.0 mm. The small globules of water appear to be encased in a film of oil, the average distance between water globules in permanent emulsions being less than one-half their diameter.

Texas and Louisiana Gulf

By
F. L. SINGLETON

ANAHUAC DEFINED ON EAST; RICH DEEP SAND IN LAFITTE

HOUSTON, Tex., Apr. 6.—The producing limits of the Anahuac field in northern Chambers County, Texas, were defined to the east the past week due to the showing of Humble Oil & Refining Co. No. 1 C. A. Lord, which cored salt water sand in the top of the Frio at 7,211 feet. The hole is being plugged back preparatory to testing 5 feet of sand from 7,056-60 feet, indicated on an electrical coring test. This sand is in the Marginulina horizon, and if the test proves productive it will probably be a gas well, since this sand is known to carry nothing but gas.

No. 1 Lord is located half a mile east of production in section 50, H.& T.C. Survey. The Discorbis was topped at 6,128 feet, Heterostegina 6,493 feet, Marginulina at 6,900 feet and the Frio at 7,211 feet. Based on the latter marker the well is approximately 200 feet structurally lower than No. 7 Engels which was completed for an average well in sand bottomed at 7,082 feet. The only part of the field undefined is to the north and northwest.

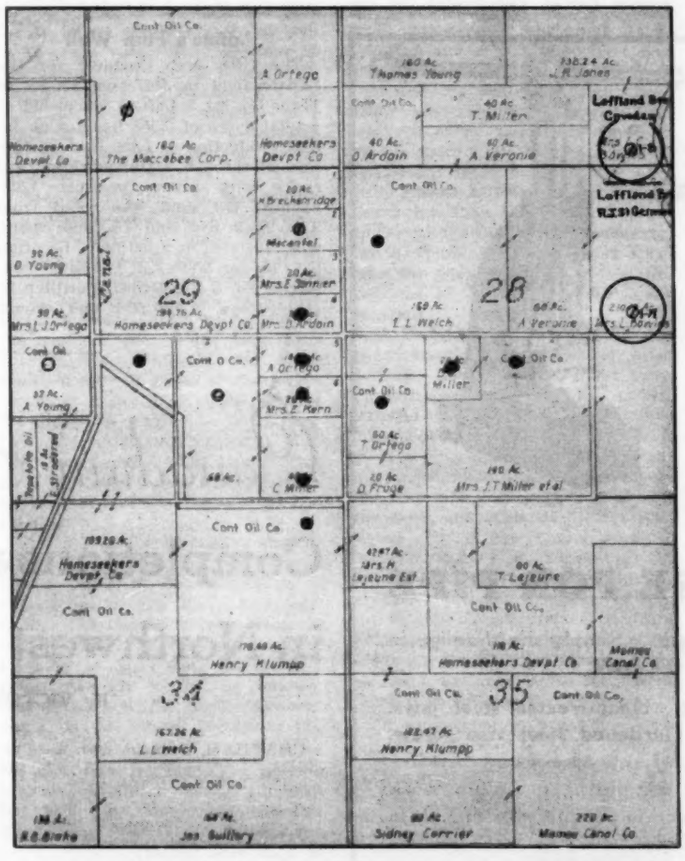
There were four completions and seven locations recorded for the Anahuac field. Humble Oil & Refining Co. No. 15 Middleton in section 58 flowed 26 bbls. per hour from a total depth of 7,085 feet; same company's No. 5 Tyrell in section 52 made 29 bbls. per hour through a quarter-inch choke from a depth of 7,085 feet and No. 1 Johnson in section 47 flowed 29 bbls. per hour through a quarter-inch choke from a depth of 7,085 feet. The last named test extends the field a short distance northeast. In the northern part of the field, Sun Oil Co. No. 10 White was completed for an initial production of 27 bbls. per hour through a quarter-inch choke from a depth of 7,084 feet.

All locations were made by Humble Oil & Refining Co. No. 10, 11 and 12 Clark were staked in section 57, Nos. 2 and 3 Johnson in section 47, No. 17 Middleton in section 60, and No. 11 Engels in section 50.

To the northwest on the Cotton Lake prospect, much interest is being centered on Salt Dome Oil Co. No. 2 A. B. Lawrence, which is preparing to core for the Miocene sand below 5,300 feet. Several reports credit the well to be checking somewhat higher than the company's dry hole to the north which was abandoned at 7,005 feet. Location is in the Soloman Barrow Survey.

Hastings Field

The Hastings field in Brazoria County was extended a short distance to the west due to the showing made by Stanolind Oil & Gas Co. No. 1 Droegemeyer, which is bottomed in oil sand at 6,052 feet with 7-inch casing cemented at 6,019 feet. This is the most westerly well drilled and is located in the southeast corner of a 40-acre tract in the H.T.&B. Survey No. 36. To the north in the adjoining Survey No. 29, the same company's No. 1 C. D. Brown was completed at 6,080 feet for an initial production of 529 bbls. in 24 hours through a quarter-inch choke. This is the first producer to be completed in this survey and it extends the field approximately 1,500 feet to the north. The same company's No. 5 Shaw in the H.T.&B. Survey No. 36 flowed 643 bbls. in 24 hours through a quarter-inch choke from a total depth of 5,836 feet, and Humble Oil & Refining Co. No. 4 Cannon flowed 30 bbls. per hour through a quarter-inch choke.



Plat of the Tepetate field, Acadia Parish, Louisiana, showing location of producing wells and two interesting outpost tests

(Map courtesy of W. W. Zingery, Second National Bank Building, Houston, Tex.)

Dickinson Field

In the South extension area of the Dickinson field, Galveston County, Coast Petroleum Co. is preparing to test No. 3 Maco Stewart which is bottomed in a broken sand section showing oil at 8,565 feet, at which depth 7-inch casing was cemented. The Discorbis was topped at 6,879 feet, Heterostegina at 7,151 feet and the Marginulina at 7,444 feet. The sand section was topped at 8,532 feet and will be tested through perforated casing. The outcome of this test is being watched with much interest as some are of the opinion that it will make an oil well, the first one to be completed in this area, as the company's other two wells were completed for large distillate producers. To the north in the J. Sellers Survey, Humble Oil & Refining Co. No. 5-B Stewart cored broken sand showing oil from 8,037-48 feet and was completed through perforated casing for an initial production of 226 bbls. per day through a quarter-inch choke.

South Houston

Two wells are scheduled to be completed at the South Houston field in Harris County by Stanolind Oil & Gas Co., both of which are located on the northwestern side, recently proven to be the most prolific part of the field. No. 1 District 6, in the center of Lot 5, Block 11, topped sand showing gas at 4,532 feet, oil sand at 4,603 feet and on a 14-minute drill stem test from 4,575-4,700 feet the operators recovered 810 feet of mud and oil and 420 feet of clean oil. The hole is bottomed at 4,775 feet and 7-inch casing was cemented at 4,599 feet. Northeast about 1,200 feet No. 1 District 7 is bottomed in oil sand at 4,773 feet and the hole is being reamed preparatory to cementing 7-inch casing. The northeastern limits of the field were defined by the abandonment of the company's No. 1 District 46 which was quit at 5,326 feet.

Outside of the townsite and located approximately 1,500 feet northwest of Smith and McDannald No. 1 Vallos, which was completed for one of the best wells in the field, Dick Schwab had derrick up for No. 1 Bennett, located in the center of tract No. 26 in the Mary Nichols Survey. To the south in the H.T.&B. Survey, Sterling Oil & Refining Co. has cemented surface casing in No. 2 Summers, located 75 feet north of the north line of the lease.

Production by Pools

Production of the principal Texas and Louisiana Gulf Coast fields for the week ending April 3 follows:

TEXAS COAST

	No. wells	Bbls.
Anahuac	60	6,978
Barbers Hill	180	17,430
Conroe	896	43,037
Dickinson	20	2,252
Hastings	58	6,237
High Island	63	6,791
Hull	180	5,527
Humble	270	3,488
Manvel	104	7,350
Mykawa	31	4,632
Pierce Junction	63	2,935
Pickett Ridge	10	1,332
South Houston	11	1,834
Sugarland	50	5,597
Thompson	193	10,987
Tomball	197	6,338
Dirks	64	5,212
Greta	209	16,078
Plymouth	50	7,250
Saxet Heights	24	2,234
Miscellaneous	2,241	65,644
Total	4,974	229,163

LOUISIANA COAST

Black Bayou	10	2,330
Bosco	57	13,234
Caillou Island	14	10,984
Cameron Meadows	22	6,210
Gillis	37	18,229
Iowa	45	18,554
Lafitte	4	3,735
Lake Barre	25	9,607
Leesville	79	14,537
Roanoke	18	5,920
Sulphur	53	4,467
Tepetate	8	2,178
Miscellaneous	366	26,555
Total	741	136,540
Total Gulf Coast	5,715	365,703

Withers Field Extended

The Withers field, southern Wharton County, was extended to the northeast by the completion of Texas Co. No. 3-C Pierce, which flowed 15 bbls. per hour through a quarter-inch choke from a total depth of 5,565 feet. Seven-inch casing was cemented at 5,557 feet. It is located 933 feet northeast of the discovery well

in the J. Caldwell Survey. To the north in the Pickett Ridge field, the same company's No. 13-A Pierce was completed at 4,709 feet for an initial production of 13 bbls. per hour through a quarter-inch choke and its No. 15-A Pierce cored oil sand to a depth of 4,712 feet and has cemented 7-inch casing at 4,703 feet.

Atlantic Oil Producing Co. and others No. 1 Hardy, located in the Hardin field, Liberty County, is drilling in shale below 5,630 feet after topping the Discorbis at 3,708 feet and the Heterostegina from 3,918-48 feet. This is the second well drilled since the discovery and is located approximately 3,600 feet north in the J. Robertson Survey.

In the Garwood area, southern Colorado County, Sterling Oil & Refining Co. No. 2-B Powell is bottomed in a sidetracked hole at 5,920 feet and is preparing to test after cementing 5-inch casing from 5,916-5,357 feet, which was cemented and sealed inside of the 7-inch casing, previously set at 6,105 feet. Sand showing oil and gas was topped at 5,917 feet which is the approximate depth that tested 450 feet of oil on a drill stem test several weeks ago. Location is in the I.&G.N. Survey, section 45.

Another location for the Kountze area in Hardin County was announced by Jack Frazier and others for No. 1-A Olive Sterneberg, located 466 feet south and 766 feet west out of the northeast corner of an 88-acre tract in the John Houston Survey. In Montgomery County, Mid-Texas Oil Co. is moving in material for No. 1 Security Trust Co., located in Lot 23, Block 1-C, in the G. W. Lonis Survey, Abstract 313. On the Toliver prospect, northern Jefferson County, John C. Crossman and others made location for No. 1 Toliver and machinery is scheduled to be moved to the location during the week. It is situated in the southeast corner of the northwest 80 acres of the Shadrack Morris Survey.

Louisiana Coast

With the exception of several interesting locations made, developments along the Louisiana coast were rather quiet the past week. On the Abbeville prospect, northeastern Vermillion Parish, Continental Oil Co. is digging cellar for No. 1 O. C. Hebert, center of the south half of a 41-acre tract in section 20-12s-3e. This prospect was discovered in 1929 and during the past year has been rechecked with reflection seismograph instruments. Protection acreage is held by Gulf Oil Corp., Stanolind Oil & Gas Co. and Humble Oil & Refining Co.

In the extreme southern part of Iberia Parish, Texas Co. is moving in a rig to drill No. 1-B State, situated on the Vermillion Bay prospect. It is situated 14,787 feet south and 14,954 feet west of the southeast corner of section 20-15s-6e. This is a known salt dome and is controlled by the Texas Co., who has drilled approximately six tests, all of which have been abandoned. The prospect is located out in the bay and all wells have to be drilled from barges.

Superior Oil Producing Co. is moving in for No. 2 Bradley at the Bayou Mallet field in Acadia Parish, which was converted into an oil field the past week by the completion of the company's No. 1 Bradley. No. 2 Bradley is situated 900 feet south, 37 degrees east of No. 1 in section 37-7s-1e.

Lafitte's Fifth Well

The fifth deep producer for the Lafitte field in Jefferson Parish is Texas Co. No. 3 Lafitte, completed at a total depth of 9,555 feet for an initial production of 1,800 bbls. of pipe line oil through a three-eighths inch choke with tubing pressure 1,680 pounds. Oil sand was cored from 9,505-9,549 feet and 7⅝-inch casing was cemented at 9,409 feet. Location is in section 20-9s-12e. The same company's No. 3 Rigolettes is drilling in shale below 9,300 feet and should reach the sand within the next two days. Locations were made for No. 4 Lafitte and No. 4 Rigolettes in sections 20 and 29.

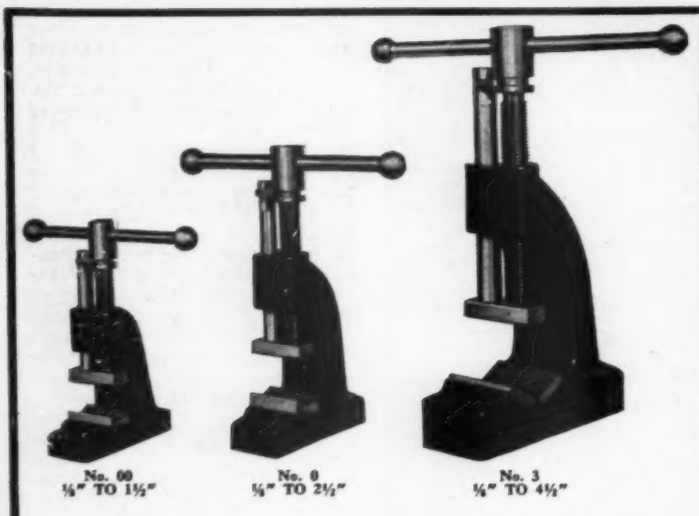
At the Tepetate field in Acadia Parish, Continental Oil Co. No. 1 P. W. Miller in section 28-7s-2w was completed through perforated casing from 8,303-16 feet, the total depth, and flowed 183 bbls. in 17 hours, with tubing pressure 2,500 pounds and casing pressure 2,550 pounds. The company's No. 1 Marcantel, which was worked over, is bottomed in oil sand at a new depth of 8,313 feet and has cemented 5¾-inch casing on bottom preparatory to testing sand topped at 8,294 feet.

Union Sulphur Co. No. 6 Castle, located midway between the two producing zones at the Gillis field in Calcasieu Parish, was tested from 5,427-32 feet and tested salt water and gas and is being killed to deepen. This apparently kills the chances of the two zones from being linked together. Location is in section 13-9s-8w.

New Pay in Iowa Pool

The Iowa field in Jefferson Davis Parish received a new producing horizon by the completion of two wells by the Shell Petroleum Corp. No. 24 Heyd, located in section 13-9s-7w, was completed in sand at a depth of 5,275 feet and flowed 713 bbls. in 24 hours through a 28/64-inch choke with tubing pressure 725 pounds and casing pressure 825 pounds. Same company's No. 19 Heyd was drilled to 9,161 feet and after an electrical coring test was run the hole was cemented back to 5,230 feet, where it was completed

(Continued on Page 64)



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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Apr. 4.—Production of crude oil and naphtha from the Alberta fields in February was 96,077 bbls. or 3,313 bbls. per day against 105,171 bbls. in January, or 3,393 bbls. per day.

February was noteworthy for the first production from the new Del Bonita field south of Lethbridge, where Terminal Oil Co. No. 1 discovery well took 375 bbls. production while drilling. The Del Bonita production is a medium to light crude, around 38 Beaume.

Del Bonita Operations

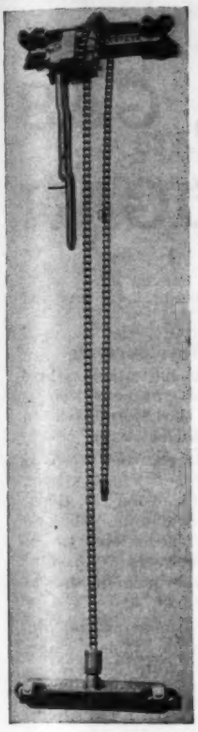
On the Del Bonita structure south of Lethbridge, Terminal Oil Co. No. 1, H. Orcutt location, NE section 18-1-21w4, has resumed testing operations. The hole, bottoming in the Madison lime at 5,112 feet, was bridged back for a test of the Sunburst formation between 4,570 and 4,700 feet, where good shows were encountered in drilling. As this was above the point where casing was landed, a casing perforating device of the Lane Wells Co. of Los Angeles was used, a total of some 300 bullets being used.

Some 300 holes were put through the 6-inch casing between 4,570 and 4,700 feet, after which the hole was bridged below the perforations to protect the lime production, and the sand is being washed through tubing. Drilling fluid started to return from the Sunburst almost immediately after shooting, indicating gas pressure which is expected to flow the oil. Decision to perforate the Sunburst sand was due to results secured in this horizon in the new Santa Rita producer on the northwest edge of the Cut Bank field in Montana. Definite results of the perforation test will be known in about a week.

Terminal No. 1 is bottomed 90 feet in the Madison lime at around 5,112 feet, with saturation indicated the entire distance, the last samples showing more porosity than higher in

(Continued on Page 72)

RATIGAN IMPROVED BELT STRETCHER



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Among Gulf Coast Drilling Contractors

C. & C. Drilling Co. received contract from Dick Schwab to drill No. 1 Bennett at the South Houston in Harris County and the rig is being moved to the location, on the northwest side of the field in the Mary Nicklos Survey. At the Cotton Lake prospect in Chambers County for the Salt Dome Oil Co., very fast time is being made on No. 2 Lawrence. Surface plug was drilled last week and late in the week the hole was down below 5,300 feet.

Nicklos Drilling Co. marked up another producer for the Continental Oil Co. at the Tepetate field in Acadia Parish and has moved the rig to location for No. 1 Adras Young. The completed well was No. 1 P. W. Miller and was completed through perforated casing in the 8,300-foot sand for an initial production of 183 bbls. in 17 hours with tubing pressure 2,500 pounds and casing pressure 2,250 pounds. No. 1 Marcantel, a workover job, has been redrilled to a depth of 8,313 feet and 5¾-inch casing has been cemented on bottom preparatory to testing.

Edwards Drilling Co. was testing two wells located at the Dickinson field in Galveston County. Coast Petroleum Co. No. 3 Maco Stewart is bottomed at 8,565 feet and and well is to be tested through perforated casing which was set on bottom. In the northern part of the field, Pure Oil Co. No. 3 Shelor was being swabbed after it failed to flow when tested at a depth of 8,056 feet. In the meantime rigging up is in progress on two wildcats located in Hardin County and Orange County that will be drilled for D. B. McDaniel and others and the Texas Canadian Oil Co.

Crown & Gracey opened a shallow sand for the Iowa field in Jefferson Davis Parish by the completion of two wells for the Shell Petroleum Corp. The two wells were Nos. 19 and 20 Heyd and were completed in oil sand at 5,200 feet. Eight other active rigs are located as follows: One at Roanoke for Shell Petroleum Corp., one at Manvel for Texas Co., one at South Houston for Stanolind Oil & Gas Co., one at Barbers Hill for Sinclair Prairie Oil Co., one at Damon Mound for the same company, two at Placedo for Barnsdall Oil Co., and one at Hobbs, N. Mex., for the Repollo Oil Co.

Smith & McDannald are trying to wash to bottom No. 2 Smedes located at the St. Martinsville field in St. Martin Parish, when the hole began heaving after sand showing strong gas pressure had been cored from 8,721-21½ feet. This is the same sand which two weeks ago attempted to blow out and caused the drill stem to stick, resulting in the hole having to be plugged back, sidetracked and redrilled to its present depth. In the same field, but for the Continental Oil Co., a shallow sand showing gas was cored at 4,980 feet and a drill stem test was attempted, but the packer failed to hold and the well is drilling ahead below 5,240 feet which is about 350 feet above the pay encountered in the discovery well. In the meantime, progress is being made in six other wells located as follows: One at East Texas for Tide Water Oil Co., one at Long Lake for the same company, two at South Houston, one at Hastings for Stanolind Oil & Gas Co., and one in Frio County for A. G. Oliphant.

Al Buchanan of San Antonio has added another rig to his contracted drilling operations in Southwest Texas making a total of 14. In San Patricio County a wildcat drilling for the Benedum & Trees Oil Co. is in the process of completion. The test encountered sand at around 5,700 feet which showed a good test last week, and is expected to be completed early in the coming week. In the same county, Buchanan rigs are drilling in the Plymouth field for the Plymouth Oil Co. Drilling in Duval County is progressing in three fields and on one wildcat location. Wells are being drilled for the Humble Oil & Refining Co. in the Piedra Lumbre and Seven Sisters fields. In

(Continued on Page 64)

Drilling crew of Smith and McDannald, contractors of Houston, on location at the Hastings field. Standing, left to right: Ellis Anderson, Ben Reece, Jimmie Rains and Ike Rains

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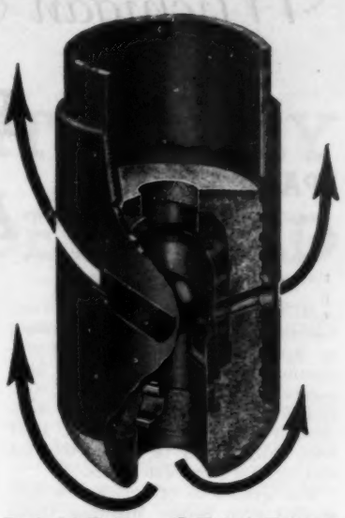

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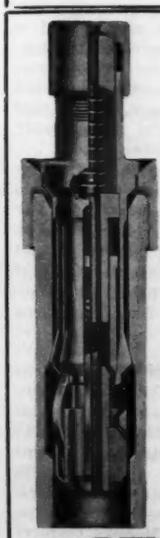

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Michigan Field Report

PRODUCTION, DRILLING, GAS ARE MOUNTING IN MICHIGAN

By PAUL A. ELLIOTT

MUSKEGON, Mich., Apr. 6.—Average daily crude production, number of drilling wells and new gas production mounted toward new high points in Michigan last week. New completions of the previous week showed up in an increase of 1,687 bbls. daily mostly in the Porter-Yost and Crystal-Montcalm fields.

The avalanche of permits to drill started even before Michigan fields began to thaw out continued adding 12 locations, including two wildcats. The total since January 1 has reached 169. Half of the new locations were for gas tests in fields now being developed to supply Lansing and Grand Rapids.

Record Gas Well

All previous Michigan gas records were shattered when Commercial Oil & Gas Co. No. 1 Nettie De Spelder, C SE SE section 4-12n-7w, Belvidere Township, Montcalm County, gauged 50,000,000 feet a day through 8-inch casing. It was conceded a rating of about 54,000,000 feet if gauged through 6⅝-inch. It exceeds by several million feet the flow of Taggart Brothers, Inc. No. 21 completed last January in Austin Township, Mecosta County, serving Greater Muskegon through the American-Michigan Pipe Line Co. The new well near Six Lakes struck the Michigan Stray sands at 1,298 feet and was drilled to 1,312 feet through 14 feet of pay.

Fletcher & Leman No. 1 E. Higbee, C SE NE section 9, same township, made 12,300,000 feet a day in the same formation topping the Stray at 1,258 feet and drilling through slightly more than 26 feet of gas sand to 1,284½ feet. To eliminate fire hazards, Stewart-Atha, Inc., contractors, drilled in the Higbee with a hole full of water under pressure. It was said to have been successful and probably will be repeated in other tests.

The De Spelder well beat the record for the tri-townships field set two weeks before at 36,000,000 feet by Ross & Bernier No. 1 Sutherland & Hockett, C NW NW section 4, and boosted the aggregate open flow capacity of the field to about 1,000,000,000 feet a day from less than 100 wells.

Increase on Deepening

Wiser Oil Co. No. 1 T. W. Musson, C NW SW section 11, same township, was increased from 24,400,000 to 32,000,000 feet by drilling slightly deeper. F. Irwin Bryan and Harry T. Martin No. 1 H. C. Tupper and others, C SW NE section 34-13n-7w, in Millbrook Township, Mecosta County, was dry. Gordon Oil Co. will abandon No. 1 Walter Zierke and others, C SE SW section 35-12n-10w, an Aetna Township, Mecosta County wildcat. It struck no Michigan Stray or any gas. Marshall formation was encountered at 1,105 feet and drilling suspended at 1,203 feet.

Another wildcat gas test was reported dry by J. C. Aber in No. 1 John Murphy, NW NW SW section 12-14n-5w, Deerfield Township, Isabella County. No Michigan Stray was encountered, the drill passing through the Marshall from 1,296 feet to 1,376 feet. Despite these disappointments Mitchell Oil & Gas Co. is planning a new Aetna Township test near two small gassers in section 27.

Beaverton Extension

The most encouraging oil development was the extension of Beaverton Township, Gladwin Township, field by Great Lakes Oil Co. No. 1 Campbell, SE SE NE section 3-17n-2w, and the flow of 357 bbls. initial struck by M. F. Whitehill No. 2 William Bell, NE NE NW section 11, same township. Dundee was encountered at 3,837 feet in the Campbell test which filled 2,500 feet at 3,901 feet. Drilling was suspended at 3,904 feet and the well swabbed 60 bbls. It will be deepened. It is about half a mile ahead of production to the northwest. Mr. Whitehill, who opened the field over a year ago, topped the Dundee at 3,820 feet and completed at 3,883 feet his No. 2 Bell, a proved location.

Six other tests were drilling in the county, four in Beaverton and two in Grout Township. Deepest was Sun Oil Co. No. 1 James Reid, NW NW SW section 12, Beaverton.

Midland County

Pure Oil Co., after completing eight tests the previous week, as oil producers and four dry, brought in one new producer last week in Midland County.

Pure Oil Co. No. 9 Charles Hill, NE SW NE section 18-13n-1w, Porter Township, made 200 bbls. daily initial after acid treatment in the Dundee limestone. The hole is 3,423 feet. Gordon Oil Co. No. 6 Muscott and others are drilling at more than 3,400 feet in section 17 and Pure No. 22 Mina Narmore, C S half N half SW section 15, at about the same depth.

Crystal—Montcalm

Daily Crude Oil Co. added about 50 bbls. to No. 8 W. Robbins, NE SW NE section 3-10n-5w, above the natural of 250 bbls. a day. Pure No. 2 Ernest Stedman, NW NW SE section 11, Crystal Township, began to produce about 60 bbls. a day. Duck Lake Oil Co. No. 1 fee, Michigan's first well under water, was finally completed with a potential of 160 bbls. a day through 6-inch casing and against several hundred pounds back pressure.

An attempt to plug back T. F. Caldwell No. 1 W. H. Pugsley, SW SE NW section 36-11n-5w, Ferris Township, to test a flow of Michigan Stray gas at 1,015-30 feet, estimated at 22,000,000 feet last August was unsuccessful.

Pure No. 3 Ernest Stedman, SE NW SE section 11-10n-5w, Crystal, was reported an abandoned location. Gulf Refining Co. No. 2 Harzey J. Fisher, SW NE NE section 2, and Jetter Oil Co. No. 1 Laurence Pitcher, SE SE NW section 5, both in Crystal Township, were nearing completion in the Dundee, at more than 3,100 feet. New Haven Oil & Gas Co. No. 1 Ben Shaver, C NE NW section 4-10n-4w, New Haven Township, Gratiot County, was expected to complete in the Michigan Stray gas sand this week. C. W. Collin No. 1 A. K. Tomlin, SW NW SW section 27-11n-4w, Sumner Township, was shut down temporarily after failure to strike gas in the Michigan Stray after drilling to 975 feet.

McClanahan Oil Co. was expected to complete No. 1 Honderich, section 1, Crystal Township outpost, while J. W. Leonard, Jr., trustee, was nearing the Dundee in No. 1 Brown, section 11, Crystal, an offset to Strange and Fortney No. 1 Lott which opened the south extension now including the bottom of Duck Lake.

United Producers & Refiners increased production of the No. 1 Conners, discovery well of section 26, Ferris Township extension to the original Crystal Township field, by acid treatment. It settled back to 100 bbls., however. Gordon Oil Co. boosted the flow of No. 8 William Strait, Crystal Township, from small production on the pump to 400 bbls. a day with acid.

Daily Crude Oil Co. No. 3 H. J. Hansen, SW NE NW section 10-12n-6w, Home Township, Montcalm County, was drilled into pay and being tubed to pump or swab at 3,111 feet. It is in a small upper Traverse field.

Ogemaw County

One small completion and three tests drilled into the Dundee pay but not yet treated or completed comprised the report from Ogemaw County. Weber Oil Co. is pumping No. 3 Boeing estate, SW SW SE section 36-22n-2e, West Branch Township, for about 100 bbls. a day. Dundee was topped at 2,468 feet and the hole bottomed at 2,634 feet. It was given a shot as well as acid.

Two tests in which drilling had been completed were Mills Oil, Inc., No. 2 Jaqua, NW NE SW section 6-21n-3e, Mills Township, and Melling Oil & Gas Co. No. 3 L. Roma, same section. The former topped Dundee at 2,477 feet and bottomed at 2,629 feet, with 300 feet of oil in the hole but not acidized. The other was swabbing.

Richland Oil Co. No. 1 E. Hustead, NW SE section 36, West Branch, topped the Dundee at 2,434 feet and was drilling in.

Wildcat Developments

Three hopeful indications, three dry holes and several tests nearing completion left the score even on Michigan wildcats last week.

Wallace Markle reported prospects of success in No. 1 Frank Opaka, NE NE SE section 4-15n-11e, Grant Township, Huron County, where a show of oil was encountered in the Dundee. Limestone was topped at 2,804 feet and the hole drilling at more than 2,840 feet.

New hopes for commercial oil production in Gratiot County were pinned on Bila Oil Corp. No. 1 Ryan, SW SW SE section 32-10n-1w, Hamilton Township, which was treating.

Mid-State Development Co. No. 1 A. J. Burleson, SE SW SE section 21-10n-5e, Taymouth Township, Saginaw County, neared the Upper Traverse with formation running fairly high at 2,400 feet.

Two Tuscola County tests were dry, Bancroft Oil Co. No. 1 C. A. Humes, NE NE NE section 21-11n-8e, Vassar Township, and Muskegon Development and Tuscola Oil & Gas Co. No. 1 Mary E. Casey, NW NW SW section 9-12n-10e, Wells Township. Both have been plugged and abandoned through the Dundee.

After striking a 1-bbl. show of oil in the Dundee, Henry L. McEvoy No. 1 Jenacki, SE SE NW section 31-12n-2e, Richland Township, Saginaw County, was to be plugged and abandoned at 3,242 feet. It was the second Dundee failure within half a mile.

Completion of No. 1 John Yadovack, SE NW SE section 13-10n-2e, Brant Township, Saginaw County wildcat, by St. Louis Pipe & Supply Co., was delayed another week. It is shut down 2 feet in the Dundee at 2,852 feet.

The Saginaw Bay-Tuscola County area in the northeast section of the Lower Penninsula has been one of the most active wildcatting sections recently.

St. Louis Pipe & Supply Co. also is making rapid progress in a Geneva Township, Isabella County, well about 5 miles south of Colemand. The operators have taken out four permits. They also started building rig for a wildcat in Dewitt Township, Clinton County.

New Permits

Twelve new locations placed under permit included one for a wildcat by Ernest Snyder, agent for Fred M. Douglass, Toledo, on the Sarah Clukey lease, SE SE SW section 8-20n-6e, Turner Township, Arenac County, and one for Taggart Brothers, Inc., No. 22 on the Paul Rennie lease, C SE SW section 33-15n-9w, Colfax Township, Mecosta County.

Eastern Field Report

By STAFF CORRESPONDENT

24 COMPLETIONS WITH ONLY 4 DRY HOLES IN OLDER FIELD

PITTSBURGH, Pa., Apr. 4.—Another fair-sized Oriskany sand gas well was completed in West Virginia during the week and it is one which extends the proven area 1½ miles. In Malden district, Kanawha County, Godfrey L. Cabot, Inc. completed No. 7 William B. Tompkins, a deep test, as a gas well gauging 5,460,000 feet a day, after a shot. The total depth was 4,916 feet with the top of the Oriskany sand at 4,901 feet.

This test is located 1½ miles south, 25 degrees east of the South Penn Oil Co.'s test on the Katherine C. Scott farm, and is on the Warfield anticline, but which flank is in doubt, as the subsea level of the Oriskany sand is lower than that of the test on the Scott farm yet it is located up structure according to surface geology. The subsea elevation of the Campbells Creek Coal Co. No. 8 Oriskany plane is still higher as well as that of the test on the N. B. Tompkins farm.

In this district, the deepest test now drilling is that of the South Penn Oil Co. which has reached a depth of 3,500 feet in a second test on the Katherine C. Scott farm. Godfrey L. Cabot, Inc. is down 2,050 feet in the test on the W. D. Lewis farm and 1,330 feet in the No. 9 on the Campbells Creek Coal Co. lease.

In Elk district, Kanawha County, two tests are nearing the Oriskany sand. The Columbian Carbon Co. is down 4,975 feet in the No. 3 on the G. and D. Copenhaver farm with about 140 feet to drill. This company lost the bit in the hole in the test on the W. L. Burdette farm which is being drilled down to the Oriskany sand. This company has reachhed 1,700 feet in the test on the Elkland Improvement Co. lease, and 4,340 feet on the M. M. Robertson farm. Their test on the W. H. Baxter and others tract west of Coopers Creek is shut down at 4,100 feet, the casing having collapsed.

Typical Short Log

The typical short log of a deep test in Elk district follows that of the G. and D. Copenhaver No. 4. Big Lime was at 1,342-1,494 feet; Big Injun sand at 1,494-1,528 feet; Corniferous lime was 4,702-4,809 feet with the Oriskany sand at 4,809-43 feet. In this case there were two pays in the Oriskany sand, one at 4,814-16 feet and the other at 4,826-35 feet.

In Loudin district, Godfrey L. Cabot, Inc. is down 1,048 feet in the No. 2 on the Kanawha Land Co. lease. The United Carbon Co. has reached 1,920 feet in the test on the C. C. Dickinson farm. In Poca district, Kanawha County, the test of W. O. Zeibold and others is getting interesting with the present depth of 4,600 feet on the D. A. Griffith farm which is just short of the Corniferous lime.

In all districts of the lower eastern field, there were 24 completions, 10 of which were gas wells, 10 were oil producers with an initial production of 176 bbls. and four were dry holes. Seven of the producers as well as most of the production was in southeast Ohio.

SOUTHEAST OHIO

The best well for the week in southeast Ohio was that of the Preston Oil Co. on the Sunday Creek Coal Co., No. 1,595, in the SE quarter of section 6, Ward Township, Hocking County. It was completed in the Clinton sand at a depth of 3,585 feet and is good for 120 bbls. a day after shot. It is located 800 feet east of the No. 1,590 on the same tract.

In Knox County, J. B. Reed drilled a test on the Lewis Dial farm in section 16, Pike Township, through the Clinton sand to a depth of 2,634 feet. It is in gas territory but had only a light showing and will be abandoned.

In Licking County, Ralph Brothers, Inc. completed No. 17 on the Boy Scouts farm, Lot 22, Franklin Township, in the Berea sand at 720 feet. It is showing for a 1-bbl. pumper. On Lot 14 in this township, the Alexandria Bank Co. and others completed No. 3 on the Jane G. Hirst farm in the Berea sand at a depth of 750 feet. It is starting off at 3 bbls. a day.

In Medina County, the Oko Oil & Gas Co. completed No. 44 on the Sanford and Watson lease, Tract 10, Lot 3, Chatham Township, in the Berea grit at a depth of 397 feet. It produced 2 bbls. the first day after shot. In section 6, Medina Township, the Preston Oil Co.'s test on the Luella B. Walker farm which was drilled in the lime at 3,110 feet about seven years ago and which was a gas well, is now starting to produce a little oil.

In Muskingum County, H. P. Muhlbock and others completed a test on the Loretta Havey farm in the SE cor. section 15, Union Township, in the Niagara lime at a depth of 3,021 feet. It is producing 20 bbls. a day naturally. The hole will be deepened slightly and shot.

In Perry County, C. L. Bullock and others completed No. 9 on the Elizabeth Donnelly farm in the NW quarter of section 33, Pleasant Township, in the Berea sand at 1,107 feet. It produced 10 bbls. the first day after shot.

SOUTHWEST PENNSYLVANIA

Three gas wells were completed in southwest Pennsylvania during the week, two of which were old wells deepened. All were in Greene County. In Richhill Township, the Manufacturers Light & Heat Co. completed the test on the S. S. Leslie farm at a total depth of 3,460 feet. The Fifty Foot sand was at 2,875-2,927 feet with gas showing at 2,876 feet. The Nineveh Thirty Foot sand was at 2,960-3,002 feet with gas at 2,978-2,990 feet. The Fourth sand was at 3,128-56 feet with gas at 3,139 feet. The test for all, natural, was 65,000 feet a day.

In Gilmore Township, Greene County, Johnson and Eddy drilled deeper in No. 3 Charles Fordyce to 3,406 feet. There was about 312,000 feet of gas in the Thirty Foot and Stray sand. In Perry Township, the Peoples Natural Gas Co. deepened the No. 1 on the Eli Headley farm to a total depth of 3,320 feet, the Bayard sand and it is a gas well gauging 150,000 feet a day.

In Richhill Township, Greene County, the Natural Gas Co. of West Virginia has reached 1,730 feet in the test on the T. H. Holmes farm and is drilling the test on the Sherman Braddock farm. The Manufacturers Light & Heat Co. is down 2,506 feet in the test on the Albert Lyons farm. Lewis & Co. has reached a depth of 1,590 feet on thhe Samuel Chess farm.

In Morris Township, Greene County, Burleigh Wright is drilling at 1,420 feet in the test on the D. C. Yoders farm. In Center Township, the South Penn Oil Co. has completed the rig on the Charles T. Harvey farm. In Wayne Township, the Equitable Gas Co. is down 2,870 feet deepening the No. 1 on the Charles C. Davis farm and 3,513 feet in the No. 1 on the Peter Tustin farm. The Bayard sand was at 3,510 feet with some gas showing.

In Morris Township, Washington County, John Conklin and others reached 3,197 feet deepening the test on the H. Sanders farm which is interesting because it is on a direct line southward of the new production in Amwell Township. The Fourth sand was at 3,117-47 feet; the Fifth sand at 3,172 feet with a show of oil at 3,181-88 feet and a little water at 3,189 feet. On the D. L. McVay farm, the New Oil & Gas Co. has the rig completed for a test.

In Amwell Township, Washington County, the South Penn Oil Co. has rigged up on the George Thomas farm or the subtract now mapped as the Lowery and is also hauling in material for a rig on the Freeze tract. The Union Gasoline & Oil Corp. is down 1,800 feet in the test on the Thomas Bebout tract and has also made a location for a test on the Hiram VanKirk farm.

In South Strabane Township, Victor D. Behm and others are shut down at 1,700 feet in the test on the William Paul and Sons farm. In East Bethlehem Township, James Hagerman is drilling at 2,030 feet in the test on the Emory heirs farm. In Deemston Township, Otto Keys is hauling in the tools to start a test on the Mordica McCarty farm. In the Bentleyville area, the Bentleyville Fuel Co. is drilling a test on the John Wherry heirs farm.

Deep Tests

In South Shenango Township, Crawford County, the Carnegie Natural Gas Co. has shut down the deep test on the Gertrude Scott farm probably permanently at 4,465 feet. The top of the Clinton sand was at 4,319 feet; the White Medina extended from 4,415 feet until the Pink Rock was reached at 4,465 feet. These formations were very hard and without a showing.

In South Union Township, Fayette County, William Snee and others are again drilling the test on the Summit Hotel property on Chestnut Ridge. The bailer was lost in the hole but has been recovered and the present depth is 6,200 feet. A 10-inch hole has been carried thus far and it will be reduced.

WEST VIRGINIA

Three producers were completed in West Virginia during the week. In Calhoun County, Kingsbury and Dallman completed deepening No. 2 Homer and Lizzie Lynch farm from the Maxon sand to the Injun sand. The Maxon was at 1,707 feet; Big Lime at 1,887 feet to 2,000 feet and Big Injun sand at 2,000-42 feet with about 8 bbls. of oil a day at 2,015-40 feet. It was given a 40-quart shot.

In Hancock County, the R. J. Braden Co. completed No. 22 on the Hewitt heirs lease on the Ohio River in Grant district. It was drilled in the Berea sand at 1,090 feet and is starting at 10 bbls. a day.

In Wirt County, W. C. Patterson completed No. 26 on the J. C. Hale farm in Clay district in the Second Cow Run sand at 352 feet as a small producer of about 1 bbl. a day.

Gas Wells

Several fair gas wells were completed in West Virginia during the week and a fair number of new locations in gas territory. In Cabell County, W. C. Kingery and others completed No. 3 Pratt heirs farm in the Salt Rock district of McComas County, gauging 3,863,200 feet a day. The Big Lime was at 1,125-1,291 feet; the Big Injun sand at 1,345 feet with gas showing at 1,346-49 feet.

In this district, the West Virginia Gas Co. completed a test on the John J. Porter farm at a depth of 1,349 feet. It produced about 1,575,000 feet of gas initially at 1,344-49 feet. In Grant district, the Shale Gas Co. completed a test on the Mary and Walter Johnson farm at a depth of 3,536 feet for 336,000 feet of gas at 3,188-3,326 feet.

In Calhoun County, Lyle S. Ayers and others completed a test on the Ray Parsons farm in Lee district at a total depth of 1,990 feet. The Big

(Continued on Page 67)

California Field Report

By L. P. STOCKMAN

PERSISTENT TRYING PROVES POOL IN SANTA MARIA AREA

LOS ANGELES, Calif., Apr. 6.—The Union Oil Co. confirmed the discovery of a new oil field in Santa Barbara County a few days ago when its No. 1 Adam in section 24-10-34, blew in barefoot flowing 3,750 bbls. of 15.6 gravity oil per day from 2,576 feet. This new well is the fifth of a series of wildcats drilled in that area by the Union and it was the first to show substantial production. No. 1 Adam is located approximately 1 mile south and about the same distance east of the town of Santa Maria. This well a few days previous to completion blew oil and gas over the crown block and it required the concerted efforts of the crew for about two hours to kill it and bring it under control. No. 1 Adam, which has an 8⅝-inch water string landed and cemented at 2,026 feet, is located 330 feet north and 990 feet east of the C of section 24-10-34.

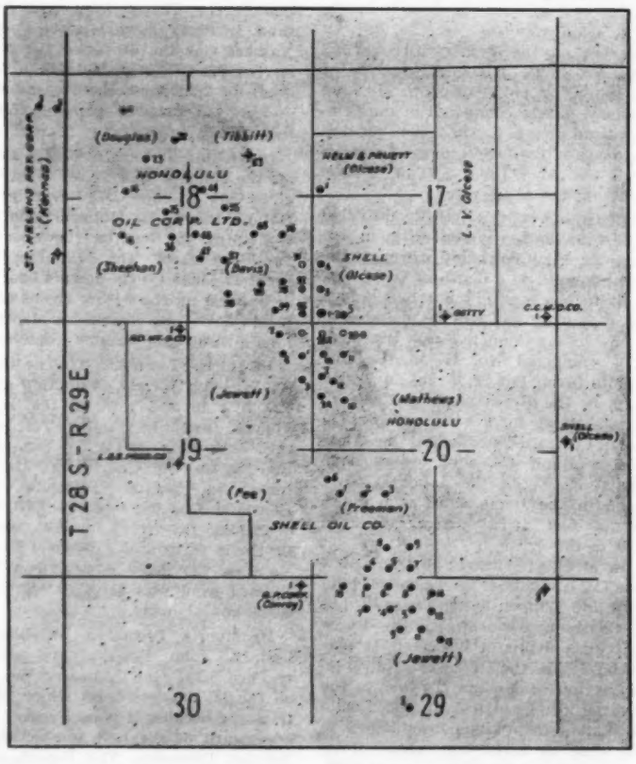
The substantial production shown by No. 1 Adam, the Union's fifth test, is rather surprising in view of the dismal showing made by the previous four tests. Several more wells will be required before the extent and productivity of this field will be known as the Santa Maria Valley in this locality is practically devoid of any visible evidence of a structure. It is believed that the Union has found an accumulation that has been trapped back of a major fault and that the productive acreage should approximate 1,500 acres. Production is coming from the Monterey shale beds which fold up against the Franciscan formation, the basement complex in this section of the Santa Maria Basin. A. N. Macrate and the Hancock Oil Co. have several leases located in relatively close proximity to the Union's new well on the T. B. Adam lease.

San Joaquin County

Preliminary preparations are being completed by the Amerada Petroleum Corp. to drill a wildcat in San Joaquin County or the southern part of Sacramento County and drilling operations are expected to get under way within the next 60 days, or sooner if a satisfactory location is selected in the meantime. The Standard Oil Co. is expected to begin work on a deep test in the Semi-Tropic field of Kern County in conjunction with the Fullerton Oil Co., Superior Oil Co. and Seaboard Oil Co. to determine the possible existence of deeper productive oil or gas zones. The General Petroleum is making preparations to conduct an early production test on its No. 1 Doyle-McKeon, a wildcat located northwest of the Elk Hills field of Kern County in section 5-30-24. The company recently landed and cemented a string of 7-inch at 6,050 feet, below which the well log shows indications of oil and gas.

In Los Angeles basin, the Eyer Petroleum Co. is installing pumping equipment on its Wilmington wildcat and it will be given an early production test. The Eyer Petroleum Co.'s well is located in the Wilmington district in section 20-4-13 and the test will be made with the bottom of the hole at 3,794 feet and the 8⅝-inch water string landed and cemented at 3,608 feet. Hillman & Long's test in the Westminister district of Los Angeles basin in section 14-5-11 is rotating ahead at 5,700 feet but with the formation running almost flat, this wildcat does not look any too encouraging. The Republic Petroleum, which proved up the possible existence of commercial production in the El Segundo section of Los Angeles basin last year, just passed the 7,200-foot level in No. 2 El Segundo and consequently should pick up the pay within the next 15 days unless something unforeseen develops in the meantime. The Republic Petroleum Co.'s discovery well has been pumping approximately 150 bbls. per day for the past six months, but it is at the present time producing about 100 bbls. per day under a surging flow. The company took this well off the beam about 10 days ago in order to change pumps and the crew was surprised when it began flowing under its own pressure.

The Union Oil Co. completed No. 93 Bell in the Santa Fe Springs field of Los Angeles basin. It was brought in pumping 119 bbls. of clean 34.3 gravity oil per day from 5,194 feet. The Union staked locations for No. 32 Alexander and Nos. 97 and 99 on the Bell lease.



The Round Mountain field of Kern County has been conservatively developed and operators are still completing excellent wells, several years after its discovery

New Wildcat

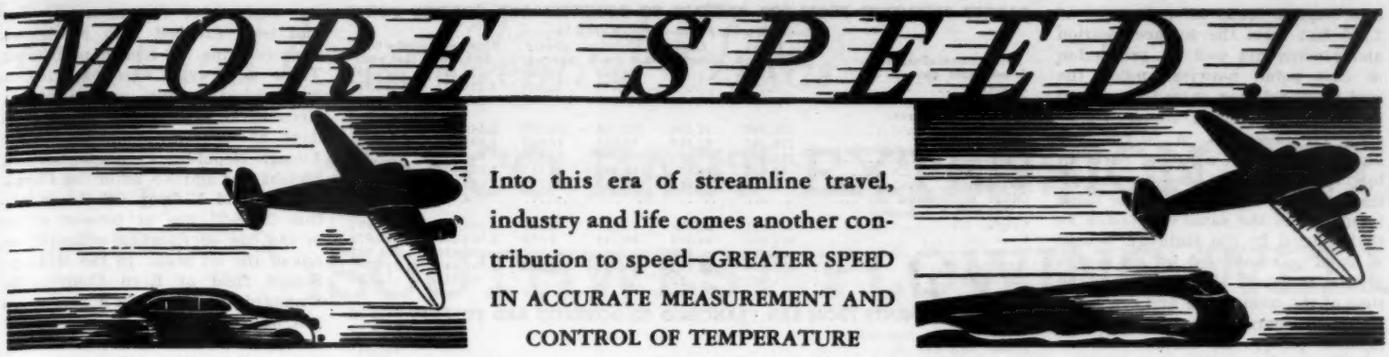
The Barnsdall Oil Co., which last year leased approximately 200,000 acres in San Luis Obispo County extending westward from the McKittrick field of Kern County, has staked location for its first test, which will be drilled in section 24-28-17, and rig material has just been placed on ground. The Barnsdall's new wildcat is located due west of the Belridge field and approximately 20 miles due east of Atascadero. It is located on the 60,000-acre Wreden ranch out in the Carissa plains. While this wildcat is being drilled, the company will continue aggressive geophysical exploration, which will keep two seismograph crews busy. The acreage tied up by the Barnsdall has special merit and may respond to geophysical exploration. The block is located approximately 20 miles north of the Santa Maria Valley, where the Union Oil Co. has completed a substantial flowing well in an area generally considered to offer little promise.

The Amerada Petroleum Corp. has started an aggressive leasing campaign south of Los Banos in Merced County, but judging by the terms contained in the leases, no immediate drilling is anticipated. The leases run for a period of 10 years and contain a provision providing for an annual rental of $1 per acre. Acreage leased by the Amerada during the past week is located approximately 1 mile northwest of a duster drilled and abandoned some time ago by the Russ Oil Syndicate and a duster drilled on the Ora Loma Farms by the Bergman Oil Co. and abandoned at 6,006 feet. Leasing of the Amerada is of special interest due to the location of the Chowchilla gas field, located about 20 miles to the east, where the Pure Oil Co. has completed two gas wells which may ultimately become of commercial importance. Before undertaking actual development, Amerada will make a further geophysical survey of the acreage in order to determine the most favorable location for a test.

"Crooked Hole" Suit

Following a comprehensive review of crooked hole drilling in the Santa Fe Springs field, Superior Judge Minor Moore, after a two weeks' hearing, ruled that the Alphonso E. Bell Corp. would be permitted to file suit for $3,182,360 against the Bell View Oil Syndicate and other defendants for the alleged conversion of 2,618,482 bbls. of oil. Judge Moore's decision was rendered as the result of a motion to file a second amended complaint which had been previously denied by another judge of the Superior Court. The Bell Corp. alleged that the defendants, lessees of limited acreage in the Santa Fe Springs field, drilled a well in 1928 and that it was permitted to deviate from the vertical and drift under a 46-acre tract owned by the Bell Corp.

Judge Moore ruled that "one who drills an oil well on his own land and permits the drill to drift 1,500 feet away into the lands of another and with knowledge of the bottom puts the well on production is liable for trespass and for conversion of the oil taken from the stranger's land. The fact that at the time of the drilling of such well the facilities and appliances had not been perfected and the knowledge of drilling had not advanced so that directional drilling was an art and the drilling of straight holes was unknown, did not justify an operator in drilling



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SPEED UP sluggish response to temperature changes! Greatly reduce delayed valve action and control where separable wells are needed!

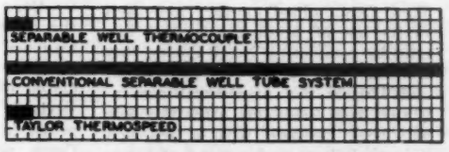
Taylor brings new speed of response to separable well tube systems. Taylor engineers contribute another new development in temperature recording and control . . . a development that is six times faster than the average separable well system now in service. TAYLOR THERMOSPEED IS ITS NAME.

A new design of unusual originality and effectiveness in bulb and separable well construction keeps up with rapid temperature changes at the bulb. It enables Taylor Recording Thermometers to show a truer and more accurate picture of temperature at the bulb. It causes control valve corrections to be made at the slightest tendency to depart from the control point. Taylor Controllers give closer regulation.

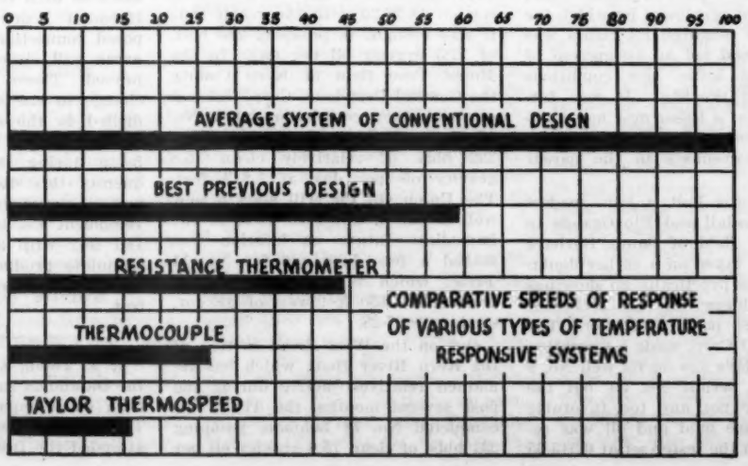
THIS IS IMPORTANT. Taylor Recording and Controlling Instruments, with all their refinements and improvements—outstanding instruments in their accuracy, efficiency and durability—can now operate with greater speed and precision than ever before in connection with separable well tube systems.

BULB CONDUCTION ERROR REDUCED. The Taylor Thermospeed construction makes another important contribution to thermometer accuracy and speed of response. Changes in the temperature of the bulb mounting or of the supporting wall have a negligible effect on the bulb temperature. This variation, known as BULB CONDUCTION ERROR, is reduced to a minimum. The comparative conduction error of separable well instruments is shown in the graph.

If you use separable well tube systems, get the information about the new Taylor Thermospeed construction. You will see results quickly—in better temperature control . . . and more efficient and economical control of your production of finished goods. Ask a Taylor Representative or drop a line at once to Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, England.



Comparative conduction error of separable well instruments


0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 90 95 100
AVERAGE SYSTEM OF CONVENTIONAL DESIGN
BEST PREVIOUS DESIGN
RESISTANCE THERMOMETER
THERMOCOUPLE
TAYLOR THERMOSPEED
COMPARATIVE SPEEDS OF RESPONSE OF VARIOUS TYPES OF TEMPERATURE RESPONSIVE SYSTEMS

THIS GRAPH shows comparative speeds of response of various types of temperature responsive systems plotted to an arbitrary scale. The comparisons were made with bulbs in standard wells and in a thoroughly agitated water bath.

With the time of response for a conventional tube system as 100, the Taylor "Thermospeed" responds to the same temperature change in only 1/6 of the time. Note the superior speed of response of the "Thermospeed" System as compared to a thermocouple and a resistance thermometer of good design.

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into strange lands at a distance of 1,500 feet from the surface location and placing his well on production at that point, notwithstanding the pool produced from extended into the lands of the drilling party. Under such circumstances, a neighboring land owner is not a proper party in intervention merely because he alleges that he has suffered the same trespass and the same conversion as that alleged by the plaintiff. Where a fraud is committed by an underground trespass concealed at the time of the commission and concealed for eight years thereafter from the injured party, the statute will be tolled, notwithstanding scouts may have had access to the derrick and the log books of the driller."

Mountain View

Four new wells and one recompletion were chalked up in the Mountain View field of Kern County during the past week, but none of these wells registered substantial production. The Wood-Callahan Oil Co. completed No. 2 Wells in section 25-30-28 and this new producer was brought in flowing 629 bbls. of clean 22.9 gravity oil and that 400,000 feet of natural gas per day from 6,048 feet after the hole had been finished with a 6⅝-inch liner carrying 396 feet of perforated. The Standard Oil Co. No. 3 Wilson in section 13-30-28 registered an initial daily production of 619 bbls. of clean 23.9 gravity oil and 2,800,000 feet of natural gas from 5,298 feet following completion of the hole with a 7-inch liner including 382 feet of perforated. The Mohawk Petroleum Co. recompleted No. 4 Hood during the early part of the week after plugging back the hole from 5,824 feet to 5,767 feet and landing a 6⅝-inch liner including 100 feet of perforated, but the well failed to come up to expectations as the initial daily production, 61 bbls. of 26.1 gravity oil, showed a cut of 34 per cent. The Hogan Petroleum Co., first operator to successfully develop commercial production in the Mountain View field, added another new well to its list of producers in this district by completing No. 7 Porter Day flowing 259 bbls. of 23.6 gravity oil and 110,000 feet of natural gas initially from 6,049 feet after the hole had been finished with a 5¾-inch liner including perforations at intervals between 5,715 feet and 6,049 feet.

The Western Gulf Oil Co. should finish another new well in the Fruitvale field of Kern County within the next few days as No. 2 Red Ribbon, in section 27-29-27, is at the present time being cleaned out preparatory to a water shutoff test. This well picked up the pay at 3,401 feet and the 8⅝-inch water string was accordingly landed and cemented at 3,400 feet. On the Kern County Land Co. lease, Western Gulf, discoverer of the Fruitvale field, has spudded in No. 21-B and has a new rig in course of construction for No. 22-B. It is the practice of operators in the Fruitvale field to salvage all drilling equipment following the completion of new wells and, unlike conditions in other fields, only the derrick and Christmas tree is left intact after dismantling operations are completed. This practice of reducing wells to skeleton form has also been adopted to a certain extent in the Dominguez field of Los Angeles basin. The Mohawk Petroleum Co. should be in a position to make a production test on its No. 1 Osborn, in section 23-29-27, if the pay is picked up, sometime within the next fortnight.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	March 22		March 15			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	74,150	10,593	161,541	537,098
Gasoline	.....	.....	77,351	11,050	1,219,973	1,509,077
Kerosene	.....	.....	.....	.....	285,956	307,148
Foreign exports:						
Crude oil	330,593	47,228	172,938	24,705	2,140,391	2,279,922
Fuel oil	240,495	34,356	72,536	10,362	2,272,119	3,058,528
Diesel and gas oil	169,406	24,201	109,370	15,624	980,099	718,360
Gasoline	93,635	13,376	233,919	33,417	1,395,115	1,034,482
Kerosene	5,729	818	52,899	7,557	136,080	247,375
Other unfinished oil	.....	.....	.....	.....	6,439	42,064
Coastwise-domestic:						
Crude oil	155,611	22,230	60,171	8,596	1,326,412	1,424,652
Fuel oil	322,023	46,003	62,149	8,878	2,261,430	2,128,672
Diesel and gas oil	22,719	3,246	.....	.....	392,136	211,867
Gasoline	371,713	53,102	114,120	16,303	2,998,042	1,729,753
Kerosene	4,422	632	.....	.....	67,318	24,598

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	157,258
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	.....	71,325
Lubricants	5,829	833	.....	.....	7,608	12,381
Foreign exports:						
Crude oil	145,972	20,853	.....	.....	628,909	533,081
Fuel oil	290,853	41,550	.....	.....	951,255	400,245
Diesel and gas oil	31,056	4,437	.....	.....	131,912	132,095
Gasoline	.....	.....	.....	.....	717,192	627,765
Kerosene	698	100	.....	.....	163,707	167,589
Lubricants	30,780	4,397	.....	.....	73,788	49,444
Coastwise-domestic:						
Fuel oil	72,481	10,354	215,780	30,826	1,735,501	747,591
Diesel and gas oil	41,698	5,957	.....	.....	118,596	79,662
Gasoline	68,734	9,819	135,881	19,412	1,023,790	772,672
Kerosene	.....	.....	15,412	2,202	40,000	10,149

Ventura Avenue

The Shell Oil Co. completed an excellent producer in the Ventura Avenue field when No. 86 Taylor was brought in flowing 1,470 bbls. of exceptionally clean 29.6 gravity oil and 1,095,000 feet of natural gas per day. This new well, which was bottomed at 5,766 feet, was finished with a 4¾-inch liner carrying 387 feet of perforated and 5,325 feet of 2½-inch tubing. The Shell only has one other uncompleted drilling project, No. 29 Edison, under way in the Ventura Avenue field at the present time, but the Associated Oil Co. is running four strings of tools. It would appear quite probable that the Shell will initiate additional development in this field shortly, although the company may decide to redrill and deepen one or more upper zone wells to the deep 57 zone discovered by the Associated Oil Co. a few years ago. Judgment of the Superior Court which last year awarded the Hartman Ranch Co. $393,700 in a suit against the Associated Oil Co. has been reversed by Division Two, District Court of Appeals, in a decision by Justice McComb, pro tem, with Presiding Justice Crail and Associate Justice Wood concurring. The ranch company's action was based upon the oil company's asserted failure to perform an implied covenant to protect leased premises from drainage by oil wells located on adjacent property in Ventura County. The appellate court held that the agreement by which the oil company acquired its rights was a sublease and not an assignment of the original lease, new conditions having been provided. It was further held that a lessor may not maintain an action against a sublessee for breach of covenants in the parent lease.

No. 12 Luton Bell, a joint project of the Barnsdall and Rio Grande in the Elwood field of Santa Barbara County, has taken on a rather doubtful aspect, as practically no showings have been logged in this 8,450-foot hole for the past 1,500 feet. The Honolulu Oil Corp. made a formation test a few days ago on its well No. 9 on tideland permit No. 90, but the results were not any too favorable although some mud and oil was recovered with the tester set at 6,545-65 feet and the bottom of the hole at 6,626 feet. Very few new wells have been started in the Elwood field during the past several months, although operators have redrilled and deepened a number of former Vaqueros zone producers to the underlying Sespe with satisfactory results. The Shell Oil Co. should have two potential producers ready for early production tests in the Capitan field of Santa Barbara County, as both No. 3 Orella and No. 12 Covarrubias are nearing the pay. The Union Oil Co. should be in a position to determine the status of its wildcat in the Sudden district of Santa Barbara County, which is located approximately midway between Point Concepcion and Point Arguello, as the anticipated pay was expected to be picked up at a relatively shallow depth. The Union's test in this district is at the present time down to 1,562 feet with no showings logged to date.

Round Mountain

Two new wells were completed in the Round Mountain field of Kern County this week and another potential producer, No. 1-B of the Honolulu Oil Corp., should be tanking oil within a few days. The California Western Oil Co. completed its No. 17 in section 7-28-29 and it was brought in pumping 222 bbls. of clean 16.5 gravity oil per day from 1,587 feet after the hole had been finished with a 6⅝-inch liner, 62 feet of which was perforated. The Honolulu Oil Corp. staked two new locations and made a production test on well No. 91 in section 18-28-29 with the result that it was brought in pumping 235 bbls. of 17.5 gravity oil per day. In the Mount Poso field of Kern County the General Petroleum Corp. finished a satisfactory completion when No. 17 Heisen was brought in pumping 332 bbls. of relatively clean 15.8 gravity oil per day at 1,813 feet. The Union Oil Co. will start a new well in the Mount Poso field in the immediate future as location was staked a few days ago for No. 11 Tribe, which is situated 330 feet north and 1,150 feet west of SE cor. section 28-27-28.

Out on the West Front section of the Kern River field, which has remained relatively active during the past several months, the Texas Co. completed No. 14 Lehman, pumping 231 bbls. of clean 15.6 gravity oil per day from 2,100 feet after the hole had been finished with a 6⅝-inch liner carrying 328 feet of perforated. Three new wells were expected to be finished in this section of the Kern River field within the next 10 days as General Petroleum No. 5 Young, Republic Petroleum No. 1 Fleishacker and No. 58 of the Chanslor Canfield Midway Oil Co. in section 23-28-27 are at present either in the pay or standing cemented on top of the oil sand. In the Midway-Sunset field of Kern County, the Standard Oil Co. made a production test of No. 65-3-D in section 3-32-24 but put the well on a probationary test as the initial daily production, 136 bbls. of 24.1 gravity oil from 4,225 feet showed a cut of 28 per cent. R. W. Jerman has picked up the pay in his No. 1 in section 31-12-23 and a 9-inch liner has been run in and landed on bottom at 2,405 feet. The Kettleman North Dome Association has listed its well No. 54-24-H as a successful completion as it was brought in flowing 1,011 bbls. of exceptionally clean 31.3 gravity oil per day from 8,818 feet after the hole had been plugged back from 8,838 feet. This well was given a preliminary production test a few weeks ago but was killed in order to complete it mechanically correct. This new well is located in the extreme western end of the structure and is producing from the fifth Temblor which some are inclined to believe may be the transition zone between the Temblor and Eocene although nothing definite has been decided along this line. The Associated Oil Co. is starting a new wildcat in section 35-23-17 on property leased from the Avenal Land Co. This new well, which will be located in the northeast corner of the section, is a few miles northwest of the Devil's Den area and is located in a district that warrants exploratory work as this section shows exceptional merit.

Hermosa-Redondo

The Hermosa-Redondo area of Los Angeles basin is rapidly becoming one of the most active wildcat districts in the state and at the present rate of increase we may find 15 or more strings of tools in operation within another 30 days. Some of this work is located close to the western end of the Torrance field and subsequent development may prove there is some connection between the Torrance field and the relatively small production developed in the Hermosa district. The lifting of drilling restrictions in the Redondo section of the Torrance field will permit operators to drill between Torrance and Hermosa Beach and thus the supposed connection between these two areas will either be proved or disproved. There was no particular change in the status of wells being drilled in the eastern extension of the Montebello field of Los Angeles basin during the week and consequently this district does not look any too promising. The Herndon Development Co. is washing its No. 2 Del Rey with acid in an effort to stimulate production as it failed to come up to expectations on a recent test.

J. J. Tobin, assistant manager of the Oklahoma sales division of Marathon Oil Company, has returned to Tulsa from Cleveland, Ohio, where he attended the funeral of his sister.

East and East Central Texas

By L. E. BREDBERG

TALCO EAST EXTENSION DRY, SOUTHWEST FLOWING WELL

DALLAS, Tex., Apr. 6.—The Talco area in northwest Titus County continues to hold the spotlight in East Texas, with one outpost test 2 miles east of the discovery appearing as a dry hole, the southwest 2½-mile extension making a flowing well good for an estimated open flow potential of 600 bbls. and with two others in the area drilling at interesting depths.

Humble Oil & Refining Co. and Windsor No. 1 Hughes and King, in the Orlando James Survey, 2½ miles southwest of the discovery, is shut in to take bottom-hole pressure by the Railroad Commission. During the last five hours before being shut in it flowed 158 bbls. through a 1-inch tubing choke, showing for a better well than the pumper completed by Peveto and others on the Carr lands in the M. V. Delgado Survey, the discovery well. That well is now fishing for rods. The drilling derrick was dismantled and a stub derrick had to be rigged up this week to carry on the fishing job. It had been pumping from 25 to 30 bbls. per hour.

The 2-mile eastern outpost test in the Talco area, being drilled by Humble Oil & Refining Co. on the Mary Groves tract in the Ben Jones Survey, is drilling below 4,490 feet and was cored on April 6. It is running way below the discovery well, which is bottomed at 4,208 feet, consequently looks like a failure.

O'Neal No. 1 O. C. Lillianster, in the William Canon Survey, 4 miles southeast of the Talco discovery, is down 4,080 feet in Fredericksburg. Base of the Georgetown lime was logged at 4,060 feet, according to the driller's log. Elevation is 302 feet, which also throws this test low in correlating with the discovery.

No recent locations have been announced in the Talco area, operators waiting on outpost tests to complete before they start any more 4,000-foot tests. It is not hard digging, but the discovery is on a fault, and production is expected to be found on or adjacent to the fault and along a narrow strip.

Fault Line Block

A block of 10,000 acres has been taken running parallel and west of the Balcones Fault line, from Tehuacana Hill and Bald Hill northward in Limestone County, northward to the corner of Navarro County near Pisgah Ridge, by V. C. Perryman of Dallas. He is believed to have been purchasing for major companies.

Henderson Wildcat

McDougall and associates have a derrick erected on the E. Price lands, 4 miles south of Trinidad in Henderson County, for a Woodbine sand test in the M. Mathews Survey.

Only one wildcat test was completed this week in the entire district. North Texas Syndicate gave up No. 1 Haines in the J. R. Braddock Survey, as dry at 1,603 feet, about 2½ miles northwest of Emerson in Lamar County.

Long Lake Extension

The Long Lake field was extended into its third county this week when Tide Water Oil Co. and Seaboard Oil Co. No. 1 Jesse Lee Johnson, in the Wheeler Survey, made 40 bbls. of oil per hour through three-eighths inch tubing choke at total depth of 5,308 feet. Pressure on the tubing was 600 pounds. The completion string of casing was cemented at 5,305 feet.

This well makes a 1½-mile western extension, adding Freestone County to Leon and Anderson Counties into which the field has expanded. A former test, drilled by Humble Oil & Refining Co. northwest of the discovery well, and over in Freestone County, proved dry, but this is the first test directly west. It is west of the second well drilled. The Cayuga field is also a tri-county producing field, having been extended to the west into Freestone and to the north into Henderson County since the discovery well.

Humble Test

Humble Oil & Refining Co. has staked location in the Earl's Chapel community, 4 miles west of Jacksonville, in the northeast corner of Anderson County, for a Woodbine sand test on its block of some 15,000 acres in the area.

Miscellaneous Completions

Anderson County

Tide Water and Seaboard Oil Co. No. 5 Shaw and Cern, total depth 5,347 feet, 75 bbls. in three hours through one-half inch choke.

Lamar County

North Texas Syndicate No. 1 Haines, dry and abandoned at 1,603 feet, 2½ miles northwest of Emerson.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Apr. 4.—Although the Central West fields are holding their own, as far as completions are concerned, a general slowing up of drilling operations is noticeable in the majority of the fields. The Central Ohio field, this week, reports the largest oil producer it has had for many months, when Preston Oil Co. No. 129 on the S.C.S. Co. property, section 6, Ward Township, Hocking County, made 120 bbls. the first 24 hours after a shot. This well, which was drilled through the Clinton sand to a total depth of 3,558 feet, filled up 2,500 feet with oil while drilling in and also had an initial of 94,560 feet of gas the first hour. The same company was rigging up their No. 130 on the same property and had staked location for No. 131.

In Lorain County, section 6, Ridge Township, Schneider & Wyles No. 1 E. Featherstone was a commercial gas well at a total depth of 2,508 feet. In the same county, section 13, Eaton Township, William Dempsey No. 1 Palmer, at a depth of 2,634 feet, was a dry hole. Section 14, Brighton Township, same county, Walter Kline staked a location for No. 1 J. C. Burge.

East Ohio Gas Co. No. 2 Katherine Belden, section 19, Plain Township, Stark County, was a dry hole, total depth 4,489 feet.

Ohio Fuel Gas Co. staked a location on the M. S. Miller farm, in section 29, Paint Township, Holmes County, for No. 1. In the same county, section 11, Washington Township, Mehowa Oil & Gas Co. No. 1 on the Clara Schaffer farm had a showing of gas in the lower Berea sand, but they will drill to the Clinton sand.

In Wayne County, section 31, Chester Township, Ohio Fuel Gas Co. made a location on the N. Hockenberry property for No. 1. The same company has also staked a location on the F. G. Rhoades farm in section 7, Clayton Township, Perry County.

KENTUCKY FIELDS

Nine dry holes, one gas well and one oil producer were completed in the Kentucky fields. J. C. Miller No. 2, on the Swanson tract, in McLean County, near Livermore, Ky., had an initial production of 80 bbls. after being shot. Dry holes reported were Sunflower Oil & Gas Co. No. 4 Shockley Brothers farm in the Livermore district, Bailey & Cox No. 1 on the Martin tract, J. B. Mayer No. 6 P. H. Morton, Hupp & Duff No. 2 on the C. C. Crowe property, and Walter Sargent & Co. No. 1 on the Hudson tract, all in the Livermore district; in the same county, Beels Knob district, Humes, Steel & Co. No. 2 on the J. Conrad lease.

In Ohio County, Maddox Pool, B. E. Calvert & Co. No. 3 N. J. Baise was a commercial gas well, but in the Oak Pool, Stewart & Gealy No. 28, on the J. H. Roberts farm, was dry. In the Colger pool, same county, Ellis & Co. No. 3 on the J. H. Evans farm was dry. Same pool, same county, Osborne & Co. No. 1 on their E. Sexton lease was dry.

Haynes-Root Negotiations

SHREVEPORT, La., Apr. 6.—Negotiations are under way for the sale of the properties of Haynes Drilling Co. in the Rodessa field to Root Petroleum Co. Both parties have confirmed that the deal was under consideration. The Haynes properties in Rodessa consist of several producing wells and large proven acreage. The reported price is $15,000,000, of which $5,000,000 would be cash and $10,000,000 in oil.

The Root company is a small producing company with a refinery at El Dorado, Ark. It is understood the New York banking firm of Kuhn Loeb & Co. is handling the transaction. Reports here indicate the properties, if purchased, may later be turned over to a major oil company which has been negotiating for properties in Rodessa.

Barnsdall-Midway Deal

E. B. Reeser, president of Barnsdall Oil Co., announces completion of negotiations for the acquisition of Midway Oil Co. Midway and British American Oil Producing Co. own equal interest in the Mary Green discovery well in the north extension of Oklahoma City field, and other wells completed since the discovery. Consideration was an exchange of 116,884 shares of Barnsdall stock for the 100,000 shares of outstanding stock of Midway Oil Co.

Robert S. Dewey, head of the petroleum engineering department for the Humble Oil & Refining Co. at Midland, Tex., was married to Miss Caroline Rowe Corbett, of San Francisco, Calif., at Phoenix, Aris., recently.

West and North Texas

By L. E. BREDBERG

GAINES WILDCAT GAS WELL; NEW COCHRAN COUNTY TEST

FORT WORTH, Tex., Apr. 6.—West Texas continues one of the most active districts in the state, with wildcatting playing an important part in the drilling now being done. Thirty-three locations were staked this week, with 24 tests completed, six dry holes.

The features of the week were preparation to complete a wildcat in Gaines County as a gas well, staking of location for a wildcat in southeast Cochran County and a half mile extension in the southern Ward County area, with Winkler County the most active county in the entire district, with six tests completed this week.

Cochran Wildcat

Cascade Petroleum Co. and Honolulu Oil Corp., discoverers of the southeast Yoakum County pool on the Bennett ranch, are building a road into a wildcat location in the extreme southeastern corner of Cochran County, where a deep test is to be drilled on the Duggan lands. Location is in the center of Labor 13, League 55, Oldham County School Lands Survey, about 27 miles north and slightly east of the Yoakum discovery. It will be the first test in this part of Cochran County. Several other tests have had good oil showings, one producing a small amount of oil, but not sufficient to make a commercial producer, consequently was abandoned several years ago.

Yoakum Discovery

The southeast Yoakum County discovery of Cascade Oil Co. and Honolulu Oil Corp. in section 678, Block D, John H. Gibson Survey, on the Bennett ranch, which has been showing for a small well, is shut down at a total depth of 5,282 feet preparing to shoot to make a commercial producer. It struck a small showing of water at the total depth, but tests are being made to determine the source of the water. Two weeks ago the test showed salt water at 5,112 feet, but the water was exhausted by bailing, consequently it was thought to be coming from behind the pipe. The present showing of water may be from the same source. The well has been swabbing around 60 bbls. of oil per day, with 4,100 feet of fluid, mostly oil, standing in the hole. If the water is found to be coming from the bottom of the hole, it will be plugged back to shut off before shooting. Showings of oil have been struck at 5,094-96, 5,215-30 and 5,243-60 feet. It will make the first producer for the county.

Gaines Gasser

The extreme wildcat test of Walsh and Harry Adams Corp. on the Averitt ranch, in section 228, 3 miles northwest of Seminole in the northern part of Gaines County, is to be completed as a gas well at total depth of 4,910 feet, opening the first producing gas area in this county. It has gauged 12,368,000 feet in lime at this depth, and has been held up by many fishing jobs, one serious one now causing the decision to complete as a gasser without drilling further in search of oil. Another test will no doubt be put down to go deeper in quest of oil. The test built up 2,180 pounds pressure while shut in.

Two Winkler Wildcats

R. H. Henderson No. 1-B Walton in section 10 and No. 1-A Walton in section 9, both in Block 26, P.S.L. Survey, Winkler County, have been showing for producers and extensions, but the former may have to be junked as a result of shooting off casing seat and bridging at 2,750 feet. Total depth is 3,044 feet, where 360 quarts were used in increasing the oil which was showing one-half barrel per hour, natural. The latter test has been spraying 5 bbls. of oil per day with 5,000,000 feet of gas, and is destined to make some kind of a producer. Both are 2 miles west of the Sayre-Howe pool.

Ward County Extension

California Co. extended the southern Ward County producing area another half mile to the north this week when No. 1 Lucie Adams, semiwildcat in the southern corner of section 39, Block 34, H.&T.C. Survey, flowed 300 bbls. of oil per day after striking a good increase at 2,525-50 feet in broken sand and lime. It is shut down at 2,570 feet estimated good for from 200 to 250 bbls. per day.

Cowden Extension

The Cowden field in northern Ector County was extended a half mile south this week when Alma Oil Co. No. 1 T. & P. Land & Trust Co., in the NE cor. section 15, Block 43, Township 1s, T.&P. Survey, started flowing by heads at 4,208 feet, total depth. It is to be shot and completed at this depth. The pool was also extended a quarter of a mile east by Phillips Petroleum Co. No. 1 Wight in section 2, Block 43, Township 1s. Hole was bottomed at 4,296 feet waiting on shot. It has been flowing 25 bbls. by heads every five hours.

Sun Oil Co. and Atlantic Oil Producing Co. are carrying their No. 1-B Holt, in section 5, Block 43, Township 1n, T.&P. Survey, 2½ miles north of the Cowden field, deeper in the lime in quest of better production. It was acidized with 3,000 gallons at 4,792 feet last week, showing only 50 feet of oil in the hole after a three-hour shut down. It is to be carried deeper, the last oil coming from such a distance in the lime, about 900 feet below the top of the section, far below production found in wells in the pool, that the test is taking on importance. A well drilled on the Tubbs ranch in the Sand Hills area of western Crane County, a couple of weeks ago, makes deeper lime drilling more important as that well made a producer from 1,800 feet in the lime, and a better producer than those previously completed at lesser depths in the lime.

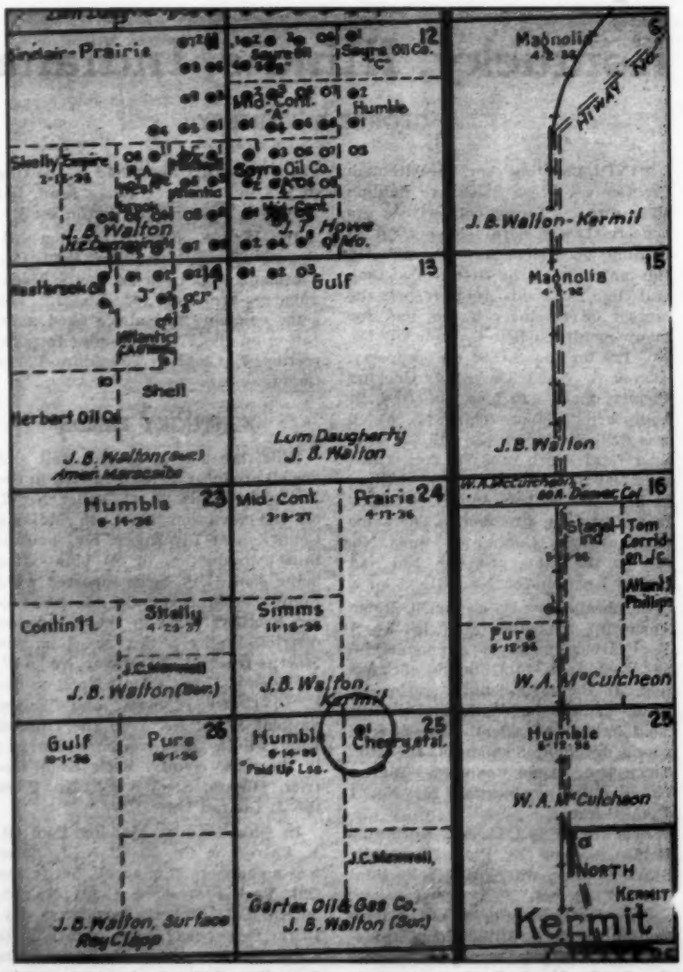
Wildcat Locations

W. C. Nelson and others are rig'ng up a spudder on location on the Rice farm in section 13, H.&T.C. Survey, in Concho County. This test is to be 1 mile north of the Maverick Oil Co. No. 1 Jim Rice in section 18, which showed for a producer in the Strawn sand, below 1,800 feet. However, that test failed to make a producer in drilling to 2,454 feet and has been plugged back to 1,847 feet to test the upper showing of oil, but now has a fishing job.

Bruce Frazier has made location for a wildcat on the E. Patterson lands in section 188, Block 29, W.& N.W. Survey, south of the Glasscock County production, and will seek production in the Permian lime.

Another test is to be drilled in Kimble County in the Edwards Plateau region, which has been showing increased importance of late by receiving several tests. Dr. B. D. Thomas is to drill this test on the Rust lands in section 47, B.S.&F. Survey, about 12 or 13 miles northwest of Junction.

Tom Green County, which has seen numerous tests put down, all to no avail except for shallow showings of oil, is to see an old test deepened. Spinner is to carry a proposed Ordovician test from 508 feet, where it has been shut down for two years after being started by three San Angelo operators. Location is in Subdivision 39, Mason and Perry Survey, near Carlsbad in the northern part



Map showing recent extension of Cherry and others in Winkler County which helps to link the Sayre-Howe and Kermit areas

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of the county. It has already been deepened to 1,710 feet, where it is shut down again, temporarily.

Wichita Falls District

Forty-nine new locations were staked in the Wichita Falls district, this district maintaining its steady drilling pace, with Archer, Young, Jack, Wilbarger and Cooke County topping the list in developments, both field and wildcatting.

A test abandoned at 3,100 feet on the Summy and Riddle farm, 1½ miles northwest of Dexter in Cooke County, is to be carried to 6,000 feet, according to contract just signed. P. W. Pewitt of Gladewater and A. B. Reece of Fort Worth hold a 15,000-acre block around the location on which the deep hole is to be dug.

Deeper Pay

A deeper pay was uncovered in the R. W. Trew pool, Cooke County, this week and the pool was promised a 3-mile western extension also. Petroleum Producers Co. No. 1 J. W. Mount, in the J. C. Meeks Survey, topped sand at 1,540 feet and shut down 4 feet in with 350 feet of oil in the hole. Casing is to be run and a test made to determine its potential. This well may mean a 3-mile extension or open another pool for the county.

Harrison and Dillard have uncovered a new pay horizon in the Trew pool, same county, in drilling No. 3 R. W. Trew, in the Billingsley Survey, logging the new sand at 1,223 feet. Pipe was set and the test carried 11 feet deeper. It is estimated good for 150 bbls. per day from this new sand.

Grayson County

The deep test of Olson and others on the Preston anticline in northern Grayson County, logged base of the Viola lime at 5,096 feet, topping it at 4,901 feet the week before, which is the first test in Texas to log this well known Oklahoma formation. The top of the black shale division of the Viola (Stringtown shale) was picked up at 5,096 feet, oil saturation and a good odor of oil being detected in the Viola between 5,062-82 feet, the second oil showing to be struck in the test. It is now drilling below 5,455 feet.

Panhandle Field

Two great gas wells, the largest ever struck in the Panhandle gas field, were completed this week. Phillips Petroleum Co. No. 1-66 Moore, in section 166, Block 3-T, T. &N.O. Survey, Moore County, gauged 192,000,000 feet of gas per day, and was completed for a railroad commission gauge of 176,300,000 feet of gas after bottoming the hole at 3,270 feet. The gas pay was logged at 3,005 feet. This well alone is nearly sufficient to supply the daily load for the largest gas line from the Panhandle field, but Anderson and Kerr completed a 108,761,000-foot gasser in the same county this week to swell the gas potential of the field when it was bottomed at 3,340 feet, but plugged back to 3,200 feet to complete. The gas pay was logged at 2,750 feet.

There were 12 locations staked in the district this week, all in proven territory, and 17 wells were completed, 4 of which were gassers.

PANHANDLE COMPLETIONS

Texas Panhandle completions, with their top of sand and total depth records and initial production were as follows:

Carson County

Gulf Production Co. No. 12 Cooper, 2,988-3,097 feet, 535 bbls. pumping; shot with 400 quarts. McGill and others No. 3-B Cooper, 3,075-3,121 feet, 561 bbls. pumping; shot with 540 quarts. Stanolind Oil & Gas Co. No. 1 Percival, 3,255-73 feet, 27 bbls. pumping.

Gray County

Empire Gas & Fuel Co. No. 11 Cullers, 3,150-3,255 feet, 691 bbls. pumping; shot with 540 quarts. Gulf Production Co. No. 13 Thompson, 3,210-78 feet, 425 bbls. pumping; shot with 400 quarts. Kewanee Oil & Gas Co. No. 5 Adams, 2,505-45 feet, 320 bbls. pumping; shot with 400 quarts. Southern Petroleum Exploration Co. No. 6 Noel, 3,145-3,223 feet, 431 bbls. pumping; shot with 320 quarts.

Hutchinson County

Harvester Oil Co. No. 3 Hale, 3,020-70 feet, 825 bbls. pumping; shot with 460 quarts. Paloma Oil & Gas Co. No. 2 Lewis, 2,883-3,088 feet, 1,156 bbls. pumping; shot with 800 quarts.

Moore County

Anderson and Kerr No. 1 Donaldson, 2,730-3,340 feet, plugged back to 3,200 feet, 108,761,000 feet of gas.

Wheeler County

Ben G. Barnett No. 1 Stewart, 2,120-36 feet, 143 bbls. flowing. J. E. McFarland No. 1 Gregg, 2,120-27 feet, 139 bbls. flowing. Palmer and others No. 1 T. S. Grimsley, 1,585-1,710 feet, 18,310,000 feet of gas. Piney Oil & Gas Co. No. 1 G. H. Copeland, 2,135-2,308 feet, plugged back to 2,180 feet, 7,250,000 feet of gas. Smith Brothers No. 4 Johnson, 2,350-2,535 feet, 3,216 bbls. flowing; No. 3 Williams, 2,455-2,555 feet, 942 bbls. flowing.

WEST TEXAS COMPLETIONS

Crockett County

The California Co. No. 5 Shannon, 2,443-2,535 feet, acidized, 307 bbls.

Ector County

Gulf Oil Corp. No. 4 Goldsmith, 4,012-4,145 feet, acidized 5,000 gallons, 2,548 bbls. oil and 7,000,000 feet of gas. Stanolind Oil & Gas Co. No. 28 Cowden, total depth 4,312 feet, shot, 933 bbls.

Howard County

W. E. Production Co. No. 1-D Schrivner, dry and abandoned 2,431 feet, elevation 2,712 feet. Continental Oil Co. No. 5 Eason, 2,380-2,408 feet, acidized, 1,272 bbls. Sinclair Prairie Oil Co. No. 32 Dodge, total depth 2,836 feet, shot, 525 bbls.

Irion County

Lowe and others No. 8 Nutt, dry and abandoned 1,612 feet, elevation 2,347 feet.

Jones County

Samedan Oil Corp. No. 3 Newton, dry and abandoned 2,175 feet. Humphrey No. 6 Dorsey, 2,055-2,070 feet, 116 bbls.

Pecos County

Easter and McCurdy No. 2-B Smith, 940-957 feet, 95 bbls. Cardinal Oil Co. No. 1-I White and Baker, dry and abandoned 1,458 feet, elevation 2,434 feet.

Scurry County

Coffield and Guthrie No. 1 Wade, total depth 3,168 feet, plugged back to 1,820 feet, top pay 1,745 feet, elevation 2,305 feet, 30 bbls. oil.

Taylor County

High Tower Oil & Refining Co. No. 1 Sadler, dry and abandoned 2,530 feet.

Upton County

Burk and Thomas No. 2 Robbins, 2,113-2,176 feet, shot twice, 659 bbls. O.F.M. Oil Co. No. 1 King Ranch, 2,090-2,161 feet, acidized, 310 bbls.

Ward County

Wahlenmaier and others No. 2 Humble-Otts, 2,250-2,390 feet, 326 bbls. Sinclair Prairie Oil Co. No. 2 Hill, 2,274-2,496 feet, shot, 702 bbls. Gulf Oil Corp. No. 67 O'Brien, 2,594-2,746 feet, shot, 1,025 bbls.

Winkler County

Amerada Petroleum Corp. No. 3 Walton, 2,811-3,060 feet, shot, 348 bbls. Gulf Oil Corp. No. 66 O'Brien, 3,135-3,185 feet, plugged back to 3,167 feet, shot, 62 bbls. oil. Harry Adams and others No. 1 Sealy, 3,090-3,130 feet, shot, 422 bbls. Magnolia Petroleum Co. No. 17 Walton, 2,821-2,931 feet, shot, 922 bbls. Sayre Oil Co. No. 8-A Howe, 2,784-2,975 feet, shot, 1,938 bbls. Humble Oil & Refining Co. No. 1-C Walton, dry and abandoned 3,201 feet, elevation 2,889 feet.

NORTH TEXAS COMPLETIONS

Archer County

Consolidated Oil Co. No. 1 Portwood AA, 1,402 feet, dry. Golding Cochran and others No. 1 J. C. Stinnett, 750 feet, dry; No. 2 J. C. Stinnett, 714-724 feet, 30 bbls. J. C. Hamer No. 1 R. D. Andrews, abandoned location. L. A. Hedrick No. 1 M. B. Ray, 1,544 feet, dry. Regal Oil Co. No. 2 L. F. Wilson, 1,608-1,614 feet, 150 bbls. T. O. Shappell No. 1 Mrs. P. A. Carr, 1,316 feet, dry. Seaberry and others No. 2 Parrish, 1,515 feet, dry.

Clay County

Republic Natural Gas Co. No. 3 Gowan, 540 feet, dry. The Texas Co. No. 1 Saner, 1,074½-1,089½ feet, 175 bbls.

Cooke County

T. P. Frost No. 2 Rohmer, 824-837 feet, 35 bbls. Kingery Brothers No. 1 C. A. Meador, 1,678 feet, dry. Mills & Carey No. 1 Bezner, junked 700 feet. Mudge Oil Co. of Texas No. 11 Johnson, 1,076-1,121 feet, 54 bbls.

Montague County

Pure Oil Co. No. 8 Maddox A, 877-917 feet, 27 bbls.

Jack County

R. D. Compton Oil Co. No. 1 Charles Henderson, 385 feet, dry. G. M. Gillispie No. 1 B. F. Rankin, 2,947-75 feet, 600 bbls. B. F. Nix No. 1 W. Y. Burt, 465 feet, dry.

Throckmorton County

A. B. Bissey and others No. 1 Mrs. D. M. McKeichan, 712 feet, dry. Petroleum Production Co. No. 1 Portwood K, 1,475 feet, dry. Alex M. Snyder No. 1 Timmons, 1,165 feet, dry.

Wilbarger County

Bason Drilling Co. No. 1 Waggoner B, 1,925 feet, dry. Deep Oil Development Co. No. 3 Waggoner, 1,890-1,902 feet, 25 bbls.

Wichita County

G. W. Cooper No. 36 Waggoner, 1,293-1,315 feet, 12 bbls. F. P. Cullum No. 1 S. B. Burnett A, 1,940 feet, dry. Sussex Oil Corp. No. 5 Hines, 1,865 feet, dry. Texas Co. No. 72 W. B. Honaker, 1,051-1,079 feet, 2 bbls.

Young County

Paul Atchley No. 1 S. M. J. Benson, 889-895 feet, 330 bbls. L. T. Burns No. 2 Campbell, 884-919 feet, 22 bbls.; No. 3 Campbell, 955 feet, dry. Duncan & Holt No. 4 Benson, 900-908 feet, 75 bbls.; No. 5 Benson, 904-914 feet, 10 bbls. N. D. Goldsmith No. 1 O. B. Stowe, 1,077-1,084½ feet, 25 bbls. W. F. Hamilton No. 10 J. K. Jeffery, 822-31 feet, 50 bbls. Honea & West No. 2 L. H. Green, 950 feet, dry.

Kriss & Alexander No. 1 Belknap Coal Co., 639-649 feet, 5 bbls. Kriss & Junker No. 1 Green, 777 feet, dry. Solo Oil Co. No. 5 O. B. Stowe, 1,051-56 feet, 40 bbls. Underwood & Campbell No. 13 Campbell A, 846-885 feet, 240 bbls., flowing. R. J. Watson No. 1 Bertie Ward, 676 feet, dry. Pitzer & West No. 1 McCluskey, 2,745-2,748 feet, 275 bbls.

Gulf Coast Fields

(Continued from Page 54)

for an initial production of 30 bbls. per hour through a 16/64-inch choke with tubing pressure 1,000 pounds and casing pressure 1,250 pounds.

Test New Dome

Lake Mongouloi dome in St. Martin Parish received its first location since it was proven a salt dome several weeks ago by the announcement of Texas Co. No. 2 State, situated 3,870 feet south, 7,031 feet east of the southwest corner of section 10-10s-9e. The company's first test topped the salt at 7,289 feet and was abandoned in salt 7,548 feet.

Continental Oil Co. No. 1 fee, located in the St. Martinsville field, St. Martin Parish, encountered a sand showing oil and gas at 4,981-91 feet and the operators attempted to make a drill stem test, but the packer failed to hold and it is coring ahead below 5,000 feet. The sand was found approximately 400 feet above the pay encountered in the discovery well. To the south, Tide Water Oil Co. No. 2 Smedes is reported to have encountered the deep sand that attempted to blow out a few weeks ago at 8,721-21½ feet. Some saturation was shown in part of the core, but due to the hole heaving the operators have been unable to core further.

Drilling Contractors

(Continued from Page 55)

the latter field crews are also drilling for Mid-Continent Petroleum Corp., Shell Petroleum Corp. and Buchanan & Blanco Oil Co. One rig is drilling for the Texas Co. in the Loma Novia field, and a wildcat is making hole southwest of the Labbe field for the Stanolind Oil & Gas Co.

Trinity Drillers, Inc., of San Antonio are drilling two wildcats in Southwest Texas for R. H. Feltner in Live Oak County and Kepley Production Co. in Duval County. A wildcat test drilled for the Howard Petroleum Co. in the latter county was abandoned at 3,505 feet during the week. In the Lopez field of Webb County, Trinity Drillers are drilling for the Superior Oil Co. of California.

George W. McMurray of San Antonio is drilling two tests on the Boothe property in the Ray extension of the West Tuleta field in Bee County, Southwest Texas.

Kansas Developments

THIRTEEN WILDCATS STARTED IN WEEK; NEW RICE OIL WELL

By
DAL DALRYMPLE

The fast pace that was set by oil operators in Kansas earlier this spring was maintained during the past week, when 56 new tests were started, several large producers completed, new pools indicated and proven areas extended. The new operations included 13 wildcat tests. Three of the new wildcats were in Ellis County; two each in Russell, Sumner, and Rice Counties, and one each in Stafford, Finney, Edwards and Rooks Counties. The revival of field work in Kansas is not confined to the central and western counties, but some of the older districts in the southeastern counties are sharing in the new activity.

The Geneseo district of northern Rice County is one of the "hot" spots in the state, with Continental Oil Co., George P. Dickey and H. K. Beardmore and associates starting tests in Township 18-7w, on a big structure. A score of tests are under way in Ellis County, half of which are wildcats. There is no let-up in activity in Rice, Russell, Stafford, Reno and other central western sectors that have been most active in the past year or so.

In southeastern Rice County, L. E. Douglas No. 1 Hauschild, NW NW section 15-21-7w, apparently has opened a new pool or extended the Wherry pool 1¼ miles southwest. The rig was destroyed several days ago when gas became ignited from a spectator's cigaret. The well blew in after Chat was topped at 3,363 feet, drilled to 3,369 feet and tools pulled. Gas was estimated between 4,000,000 and 5,000,000 feet. The well also made several head flows before it was capped, but a test could not be made until a new rig was erected. Several persons were on the derrick floor at the time of the explosion, but none were seriously hurt.

The increase of activity in Kansas has caused several of the major companies to expand their field and office forces in Wichita and other oil centers of the state. Several of the major companies, which are showing more interest in Kansas than ever before, have enlarged their land, geological and production offices in Wichita.

Reno County

The Burrton and Yoder areas of Reno County set the pace for Kansas in number of completions the past week with nine, including one old well deepened. Gulf Oil Corp. No. 7 Myers, SE SW NW section 3-24-4w, made potential of 1,031 bbls. of oil. It topped Chat at 3,265 feet; Hunton lime, 3,593 feet; total depth, 3,604 feet. Derby Oil Co. No. 2 Seedle, NE NE SW section 17-24-4w, was completed at 3,356 feet, total depth, after topping Chat at 3,307 feet. It made potential of 1,000 bbls. of oil and produced 1,000,000 feet of gas. Same operator's No. 1 Seedle, SE NE SW section 17-24-4w, topped Chat at 3,297 feet; total depth, 3,370 feet; and made potential of 751 bbls. of oil. Gas gauged 1,000,000 feet.

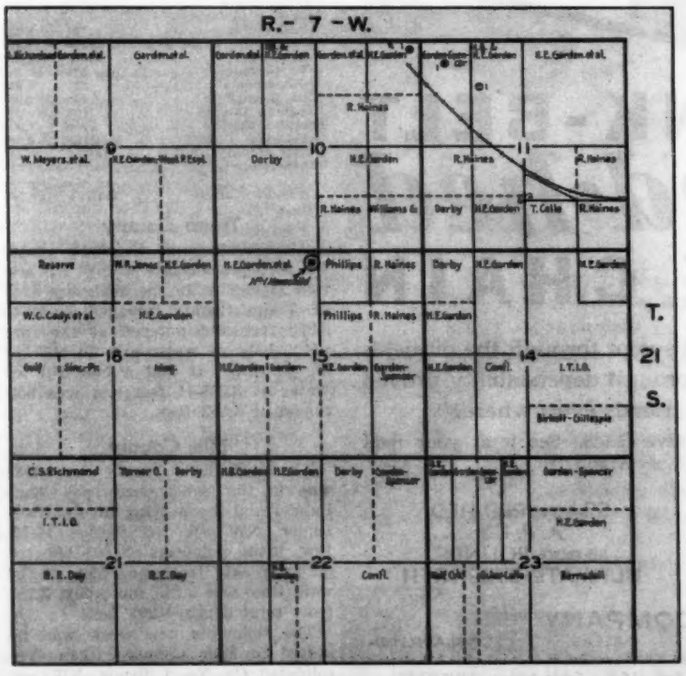
Dickey Oil Co. and Indian Territory Illuminating Oil Co. No. 6 J. Baughman, SW SW NE section 3-24-4w, was acidized and made potential of 489 bbls. of oil, cutting 2 per cent water. Top of Chat was 3,272 feet; total depth 3,361 feet. Olson Drilling Co. and Shell Petroleum Corp. No. 4 Rudicel, C NE SW section 24-23-4w, topped Chat at 3,262 feet; total depth, 3,372 feet. After acid treatment, it made potential of 293 bbls. of oil. Marathon Oil Co. No. 1 Mueller, SW SW NE section 30-24-4w, made potential of 353 bbls. of oil, with 93 bbls. of water, and was completed. Top of Chat was 3,355 feet; total depth, 3,403 feet. Texas Co. No. 2 Collins, NE NE SE section 17-24-4w, was deepened from old total depth of 3,380 feet to 3,391 feet and made potential of 318 bbls. of oil, recompleted.

Marathon Oil Co. No. 1 Bontrager, NE cor. section 33-24-5w, was drilled to 3,925 feet, plugged back to 3,465 feet and acidized. It made potential of 107 bbls. of oil, with 50 bbls. of water. Chat was topped at 3,385 feet; Viola, 3,797 feet; Simpson, 3,826 feet; Wilcox sand, 3,830 feet; Siliceous lime, 3,915 feet. Gas was estimated at 12,000,000 feet at 3,470 feet. Derby Oil Co. No. 2 Schrock, SW cor. section 27-24-5w, made potential of 62 bbls. of oil and produced 5,000,000 feet of gas, completed. Chat was encountered at 3,389 feet; total depth, 3,494 feet.

New work in Reno County was as follows: Olson Drilling Co. and Shell Petroleum Corp. No. 7 Goering "A," C SW section 26-23-4w, spudding; Stanolind Oil & Gas Co. and Amerada Petroleum Co. No. 1 Welch, C SE NW section 9-24-4w, location; McPherson Drilling Co. and Derby Oil Co. No. 2 Scheuchzer, NW SW SW section 17-24-4w, cellar; Magnolia Petroleum Co. No. 2 Mayme Harris, SW SE NW section 9-26-4w, moving in material.

Rice County

The largest Rice County completion of the week was the Skelly Oil Co. No. 3 Graham, NE SE SE section 16-20-10w, in the Raymond area, which made potential of 2,551 bbls. of oil. Top of Siliceous lime was 3,355 feet; at 3,358 feet it was acidized and pumped 880 bbls. in 17 hours. Deepened to 3,360 feet, total depth, it pumped 2,069 bbls. in 24 hours, down four hours. Sinclair Prairie Oil Co. No. 3 Graham, NW SW SE section 16-20-10w, made potential of 138 bbls. of oil and was completed. Siliceous lime was topped at 3,369 feet; total depth, 3,372 feet.



The No. 1 Hauschild, NE NE NW section 15-21-7w, is showing as an extensioner of the Wherry district in southeastern Rice County, Kans.
(Mid-Continent Map Co., Wichita, Kans.)

In the Silica area, Hutchinson Oil Co. No. 4 Wendell, SE SW NE section 32-19-10w, made potential of 2,198 bbls. of oil and was completed. It topped Siliceous lime at 3,286 feet; total depth, 3,310 feet. Stanolind Oil & Gas Co. No. 3 Specht, SE NW NE section 6-20-10w, topped Siliceous lime at 3,295 feet and was bottomed at 3,311 feet. It swabbed 75 bbls. of oil an hour for four hours and, without acidizing, made potential of 1,739 bbls.

Vernon Oil & Gas Co. and Cusco Oil Co. No. 1 Boldt, NW SW NW section 10-19-10w, wildcat, was dry and abandoned at 3,388 feet, total depth, with water in the hole. Water intruded as far up the hole as 1,640 feet. Kansas City lime top was 3,005 feet; Conglomerate, 3,325 feet; Siliceous lime, 3,346 feet. It had a slight showing of oil at 3,360 feet.

Several new tests were started in Rice County, as follows: C. E. Skiles and others No. 2 Edwards, SW NW NE section 3-18-8w, moving in material; Empire Oil & Refining Co. No. 3 Janssen, NW NE NW section 3-18-8w, location; Beardmore and others No. 1 Fuller, SW SW SE section 23-18-7w, moing in material; Continental Oil Co. and others No. 1 Gibson, SE SE SW section 24-18-8w, location; same operators' No. 2 Lansing, SW SE SE section 25-18-8w, SW SE SE section 25-18-8w, location; Derby Oil Co. No. 1 De Foe, NE NW SE section 36-18-8w, building rig; Empire Oil & Refining Co. No. 4 Guldner, SW cor. section 9-18-9w, location; Gulf Oil Corp. No. 5 Stoltz, SE NE NW section 32-19-10w, building rig; Mid-Continent Petroleum Corp. No. 3 Risse, NW SE NE section 6-20-10w, building rig; Sinclair Prairie Oil Co. No. 1 Cross, SW NW NE section 15-20-9w, moving in material; Mid-Continent Petroleum Corp. No. 7 Hartle, NE SE NW section 15-20-9w, building rig; Skelly Oil Co. No. 5 Graham, SE cor. section 16-20-10w, building rig; Sage and others No. 1 Patton, SW cor. section 5-21-7w, cellar.

Empire Oil & Refining Co. No. 1 Janssen, NE NE NW section 3-18-8w, pumped 360 bbls. of oil in 12 hours, from Siliceous lime topped at 3,251 feet. It previously had pumped 558 bbls. in 24 hours while drilling. It was bottomed at 3,278 feet. Continental Oil Co. and others No. 1 Root, NW NE NE section 36-18-8w, swabbed at the rate of 40 bbls. of oil an hour. Wilcox sand was topped at 3,154 feet; total depth, 3,181 feet. Gulf Oil Corp. No. 7 Steckel, SW cor. section 30-19-10w, pumped 199 bbls. of oil in 24 hours and was acidized but had not been tested. Siliceous lime was topped at 3,284 feet. Same operator's No. 8 Steckel, SW NW NW section 31-19-10w, pumped 776 bbls. of oil in 18 hours, cutting 20 basic sediment. It was plugged back to 3,293 feet and acidized, but not tested. Siliceous

lime was topped at 3,277 feet. Stanolind Oil & Gas Co. No. 4 Mitchell, NW NE SW section 32-19-10w, topped Siliceous lime at 3,314 feet; total depth, 3,331 feet. After swabbing 40 bbls. of oil per hour for three hours, it was acidized, but had not been tested. Stanolind Oil & Gas Co. No. 2 Smith, NW NE SE section 16-20-9w, swabbed 100 bbls. of oil in two hours, after topping Siliceous lime at 3,237 feet and drilling to 3,258 feet.

Barton County

Two producers were completed in the Barton County sector of the Silica pool. Continental Oil Co. No. 3 Risse, C E half NE SE section 36-19-11w, topped Siliceous lime at 3,264 feet; total depth, 3,267 feet. It swabbed 57 bbls. oil an hour and made potential of 1,555 bbls. Magnolia Petroleum Co. No. 3 Steckel, SE NW NE section 1-20-11w, was deepened from old total depth of 3,291 feet. At 3,307 feet, new total depth, it pumped 330 bbls. of oil in 18 hours and made potential of 378 bbls.

New work in Barton County: Mid-Continent Petroleum Corp. No. 5 Matzek, NW SW SE section 25-19-11w, building rig; same operator's No. 4 Schmidt, SE NE SW section 36-19-11w, building rig; Texas Co. No. 2 Schmidt, NW NE NW section 36-19-11w, location; Phillips Petroleum Co. No. 4 Matzek, C E half SW NE section 36-19-11w, cellar.

Texas Co. No. 1 Schmidt, NE NE NW section 36-19-11w, made potential of 1,293 bbls. of oil. Top of Siliceous lime was 3,289 feet; total depth, 3,300 feet. Magnolia Petroleum Co. No. 2 Meda Steckel, NW NE NW section 1-20-11w, topped Siliceous at 3,287 feet; total depth, 3,296 feet; and swabbed 632 bbls. of oil in 14 hours.

Russell County

The three Russell County completions included one wildcat failure. Charles Newbold No. 1 Krug, SE SW SE section 4-15-14w, northeast of Gideon, was dry and abandoned at 3,230 feet, total depth, with water in the hole. Top of Anhydrite was 760 feet; Oswald lime, 2,965 feet; Siliceous lime, 3,218 feet.

Skelly Oil Co. No. 1 Schwartzkopf, SE cor. section 26-15-15w, was acidized with 5,000 gallons, made potential of 939 bbls. of oil and was completed. It also produced 50 bbls. of water. Oswald lime was topped at 3,142 feet; total depth, 3,173 feet. Central Petroleum Co. No. 1 Rusch "B," NW NE SW section 19-12-15w, made potential of 706 bbls. of oil after acid treatment. At 2,525-30 feet gas was estimated at 5,000,000 feet. First oil showing reported was at 2,745 feet; total depth, 2,996 feet.

In Russell County the following new activity was reported: Stearns & Streeter and others No. 1 John Hancock Insurance Co., wildcat, SE SW SW section 31-12-14w, moving in material; Empire Oil & Refining Co. No. 1 Peter Boxberger, SW SW NW section 32-13-14w, location; same operator's No. 4 Crawford, SE SW SW section 2-14-15w, location; Wakefield and others No. 1 Krug, wildcat, NE NW SW section 7-15-14w, moving in material.

Billings No. 1 Witt, SE SE SW section 3-14-15w, had Gorham sand at 3,314-18 feet, total depth, and pumped 350 bbls. of oil in 24 hours. Anhydrite was topped at 915 feet; Oswald lime, 3,057 feet. Stanolind Oil & Gas Co. No. 1 Rein, NW cor. section 25-14-14w, drilled to 3,008 feet, was acidized and swabbed 50 bbls. of oil and flowed 60 bbls. of oil. Oswald lime was topped at 2,928 feet.

Estimated Production

Estimated daily average production in Kansas for the week ending April 4 and for the preceding week is as follows:

	Barrels	
	April 4	Mar. 28
Oxford City	7,200	7,125
Burrton	14,250	14,575
Ritz-Canton	7,475	8,925
Hollow-Nikkel	4,100	4,475
Voshell	2,825	3,475
Ellsworth County:		
Lorraine-So. Lorraine	8,665	9,509
Other pools	1,586	1,791
Rice-Barton Counties:		
Chase	10,745	11,167
Raymond	3,772	3,244
Silica	6,368	7,565
Keesling	1,846	1,611
Miscellaneous Rice	3,728	3,657
Miscellaneous Barton	1,911	1,903
Russell County:		
Fairport	3,288	4,336
Gorham	4,330	4,742
Russell	3,974	4,696
Other pools	8,560	9,226
Sedgwick County:		
Valley Center	1,374	1,385
Greenwich	1,345	1,333
Robbins	1,818	1,920
Eastborough	896	912
Other pools	527	539
Ellis County	1,344	1,088
Kingman County	499	277
Stafford County	2,140	2,106
Greenwood County	9,100	9,300
Butler County	18,000	18,408
Other fields	20,177	20,635
Total Kansas	151,775	159,635

Trego County

Alma Petroleum Co. and others No. 2 Rhoades estate, C NW NE section 14-11-23w, in the Wakeeny area of Trego County, plugged back to 3,250 feet and pumped at the rate of 20 bbls. of water and 10 bbls. of oil per day. It had a hole full of water at 3,538-41 feet and was bottomed at 3,563 feet.

Ellis County

The single Ellis County completion was in the Schoenchen pool. Tom Palmer and Storm King Oil Co. No. 4 Ruder, NW SW NE section 17-15-18w, made potential of 801 bbls. of oil after acid treatment. Top of Oswald lime was 3,245 feet; pay, 3,283 feet; total depth, 3,291 feet.

The following new work was reported in Ellis County: Ryan Consolidated Co. No. 1 Bemis, NW cor. section 22-11-17w, moving in material; Wolf Creek Oil Co. No. 1 Dreiling, NW NW SW section 4-12-17w, moving in material; Harris & Haun and others No. 1 Schmeidler, SE SE SW section 3-13-17w, wildcat, moving in material; Yarnell & Carlson No. 1 Phillip, NW NW SE section 2-14-18w, wildcat, moving in material; Muth and others No. 1 Penney, SW SW SE section 29-14-18w, wildcat, moving in material; Tom Palmer and Storm King Oil Co. No. 1 J. Ruder, rigging up rotary.

Norton County

One of the farthest north wildcat tests in Kansas has been abandoned as a failure. Lario Oil & Gas Co. and Elwell No. 1 Kennedy, SW SW NW section 22-3-23w, in central Norton County, topped Granite Wash at 3,650 feet; granite, 3,678 feet, and was dry and abandoned at 3,692 feet, total depth. Kansas City lime was topped at 3,487 feet. There were showings of oil at 3,535 feet and 3,545-50 feet. Water was encountered at 2,375 feet, and at other levels on down the hole.

Sumner County

Vickers Petroleum Co. No. 2 Markley, NW SW SE section 28-31-1w, in the Wellington area of Sumner County, made potential of 246 bbls. of oil and was completed at 3,674 feet, total depth, after acidizing. Chat was topped at 3,639 feet. Carlock, Rosenthal and others No. 2 Wenrich, NE NW SW section 23-32-2, in the Oxford area, made potential of 342 bbls. of oil, with 30 bbls. of water per hour, and was completed. It topped Stalnaker sand at 2,128 feet; total depth, 2,179 feet; and was shot with 120 quarts. Morgan and others No. 1 Veail, SE SW NE section 27-32-2, wildcat, had a hole full of water at 3,415 feet, total depth, and was dry and abandoned. Stalnaker sand was topped at 2,313 feet; Layton, 2,772 feet; Chat, 3,355 feet.

New work in Sumner County follows: Pryor & Lockhart and others No. 1 Knowles, SW cor. section 30-30-1, wildcat, cellar; Texas Co. No. 1 Reed, NE SE SE section 11-31-1w, wildcat, cellar; Gulf Oil Corp. No. 4 Endure, C W half W half SW section 16-35-3w, a short distance north of the Oklahoma state line, drilling at 3,000 feet.

Sedgwick County

T. C. Johnson No. 1 Jansen, SW SW NW section 11-28-2, a wildcat southeast of Wichita in Sedgwick County, topped Siliceous lime at 3,370 feet, water intruded and it was dry and abandoned at 3,404 feet, total depth. Kansas City lime was topped at 2,520 feet; Misener sand, 3,290 feet; Viola lime, 3,294 feet; Wilcox sand, 3,305 feet. D. H. Lauck No. 1 Wolf, SE SW NE section 6-28-1w, in the Schulte area, had Mississippi lime at 3,362-3,608 feet; Simpson at 3,678-79 feet, total depth; had a hole full of water and was dry and abandoned.

Two old wells in Sedgwick County were being deepened. Shell Petroleum Corp. No. 1 Lugrisse "A," SE SE NE section 15-26-2, was cleaning out after shots at 3,295-3,303 feet. Siliceous lime was topped at 3,304 feet. Old total depth was 3,173 feet. Western Pipe & Supply Co. No. 1-A Rapp, NW cor. section 22-26-2, was drilling below 2,960 feet. Old total depth was 2,955 feet.

McPherson County

Continental Oil Co. and others No. 1 Boechner, C W half E half SE section 29-21-1w, in the Showalter area

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of McPherson County, made potential of 1,124 bbls. of oil after acidizing and was completed. Chat was topped at 2,920 feet; Hunton lime, 3,318 feet; total depth, 3,335 feet.

Ok-Tex and others No. 1 Moehlinger, SE SW SW section 21-21-2w, wildcat west of Moundridge, was dry and abandoned at 3,650 feet, total depth. Kansas City lime was topped at 2,344 feet; Chat, 3,057 feet; Misener sand, 3,346 feet; Simpson, 3,570 feet.

Two new tests were reported in McPherson County. McPherson Oil & Gas Co. No. 4 Anderson, NE SE NE section 31-18-2w, was moving in material. Continental Oil Co. and others No. 2 A. K. Graber, C E half W half SE section 29-21-1w, was a location.

Harvey County

In Harvey County, one new operation was reported. W. C. McBride, Inc., No. 4 Schmidt, NE cor. section 30-22-3w, is an old well deepening from 3,464 feet. It topped Viola lime at 3,580 feet and Wilcox sand at 3,600 feet. It had a slight showing of oil at 3,623-26 feet, with water increasing at 3,623-29 feet. It was bottomed at 3,635 feet.

Greenwood County

Oko Oil Co. No. 15 Shadel, SW NE SE section 15-23-13, was a Greenwood County completion. Lime was topped at 1,778 feet and pay was had at 1,792-99 feet; total depth, 1,803 feet. It was acidized with 2,000 gallons, pumped 50 bbls. of oil in 24 hours and was completed.

New work in Greenwood County was as follows: W. M. Moore Oil & Gas Co. No. 5 Pixley, SE NE SE section 7-22-10, machine: Shaffer & Howell No. 4 Sauder, C S half NE SE section 16-23-13, had lime at 1,716 feet, total depth, and produced one-third of a barrel of oil a day; Ward McGinnis No. 1 Barb, NE NE SW section 18-24-12, spudded; S. A. McGinnis and others No. 1-A Jackson, NE SW NW section 25-25-8, rigging up; Barker & Herman No. 1 Lockhard, NW SW SW section 15-26-13, shut down at 540 feet; Marylyn Oil Co. No. 5 Wilkinson, NW SE NW section 7-25-9, spudding; Coulter No. 1 Lockhard, NE SE SE section 16-26-13, shut down at 745 feet.

Cowley County

E. B. Shawver and others No. 1 Wilson, NE SE NE section 11-30-4, Cowley County wildcat, was dry and abandoned at 2,890 feet, total depth, in Mississippi lime topped at 2,850 feet. Kansas City lime was topped at 2,223 feet.

Shawver & Wilt No. 1 Baruth, SW NW NE section 8-34-3, an old Cowley County wildcat that was deepened from 1,893 feet to 3,305 feet, flowed 125 bbls. of oil in 24 hours on potential test and was completed. Sand was topped at 3,281 feet and at 3,303 feet it flowed 400 bbls. of oil per day by heads.

A new wildcat test has started in Cowley County. It is the De Genther Oil Co. No. 1 Holt, NW NW SE section 15-30-5, moving in machine.

Woodson County

C. L. Sheedy and others No. 1 Tipton, NW cor. section 28-25-14, in Woodson County, flowed 240 bbls. of oil in 24 hours after a shot with 160 quarts and was completed. Sand was topped at 1,390 feet; Mississippi lime, 1,490 to 1,510 feet, total depth. C. L. Sheedy No. 3 Klick, NW SE SW section 20-25-14, made potential of 125 bbls. of oil and was completed. Top of sand was 1,412 feet; total depth, 1,440 feet. It was shot with 200 quarts. Conley & Cooper No. 7 Estes, C W half NE NW section 7-24-14, pumped 30 bbls. of oil in 24 hours after acidizing and was completed. Lime was topped at 1,690 feet; pay at 1,723 feet; total depth, 1,736 feet.

C. L. Sheedy and others No. 1 Grand Lodge, C E half NW SW section 4-25-14, wildcat north of the Stephenson gas area, was dry and abandoned at 1,542 feet, total depth. It had a hole full of water at 1,445-85 feet.

In Woodson County the following new activity was reported: Woodson County Pipe Line Co. No. 6 Winterscheid, SW NW SE section 6-24-14, drilling at 385 feet; C. L. Sheedy No. 1 Nordmyer, C S half SW NE section 19-25-14, spudding; Rockhill & Brookover No. 1 Vermont State Bank, NW NW SW section 26-25-14, moving in machine.

Various New Tests

Work was started at a new wildcat test on a communitized block in Stafford County. It is the Stanolind Oil & Gas Co. and Atlantic Oil Refining Co. No. 1 Shotton, SW cor. section 27-22-13w, building rotary rig.

The only new activity reported in Butler County was the Ellis and others No. 1-A Pettit, SE SE NW section 21-28-6, location.

One new wildcat test was started in Rooks County. It was Hartman & Blair and others No. 1 Hall, NW cor. section 25-10-17w, moving in material.

Location has been staked for a new wildcat test in Edwards County. It is the Stanolind Oil & Gas Co. and Elwell No. 1 Donovan, C SE SE section 14-26-18w.

Work has started on a wildcat test in Finney County, in the far western part of the state. It is the Lone Star State Drilling Co. No. 1 Hamlin, SW SW NE section 31-24-34w, for which rig has been built.

Eastern Fields

(Continued from Page 57)

Injun sand was at 1,916-74 feet with about 37,200 feet of gas after a shot at 1,956-62 feet.

In Gilmer County, Leonard Cain and others completed the test on the A. S. Moore and F. H. Stewart farm in Center district at a depth of 1,400 feet. It is showing for 1,000,000 feet a day. In this district, the Hope Construction & Refining Co. completed drilling a test on the J. W. Boggs farm at 3,214 feet or the slate below the Berea sand. It is a dry hole.

In Ritchie County, W. H. Bickel drilled a test on the Dewey Gibson farm a half mile south of Smithville on the Hughes River in Murphy district to a depth of 1,870 feet, the Injun sand. It was a dry hole. On Leatherbark Creek in the district a mile south of Smithville, Clem S. Morris drilled a second test on the H. B. (Ina) Ayers farm and found it dry in the Injun sand at 1,700 feet.

Other Operations

In Boone County, the United Fuel Gas Co. has made location for two wells on the Mohler Lumber Co. tract in Scott district, one on the headwaters of Ivy Creek and the other on Dicks Creek. In Peytonia district, the Owens-Illinois Glass Co. has made a location for No. 26 on the Peytonia Coal Land Co. on Indian Creek and is hauling a rig to a location for No. 27. This company is drilling the test on the Nelson, Price and Carter lease in Washington district at 747 feet.

In Cabell County, W. C. Kingery and others are rigging up No. 4 on the Pratt heirs farm on Guyandotte River in McComas district. Here, R. H. Adkins and others are moving in material on the Demma Morrison farm on Trace Fork of the Guyandotte River. The Kentucky-West Virginia Gas Co. is building a road to a test on the Arnold Walker farm on Reuben Branch of Madison Creek, and also to a test on the J. B. Bailery farm on Smith Creek. The Sue Gas Co. has spudded in on the Gill estate.

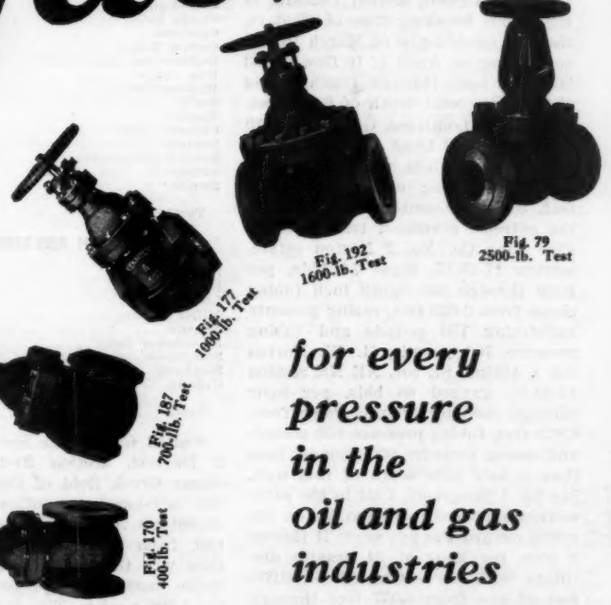
In Calhoun County, there is additional new work. Ferrell & Cain have part material on the Lucy Haverty farm on the Little Kanawha River in Sheridan district. The Ohio Valley Gas Co. is building a rig for a test on the Charles Starcher farm in Lee district. H. S. Adams has a rig standing for a test on the J. L. Stump farm. G. Boggess is rigged up on the Maude Altizer farm. In Washington district, Massey & Jarvis spudded in and started drilling on the C. B. Parsons farm.

In Clay County, the Virginia Gasoline & Oil Corp. are drilling No. 34 on the Brown, Swan, Goshorn and Geary tract at 400 feet and the No. 35 at 200 feet. The Elk River Gas Co. is fishing at 1,818 feet on the Thompson Land & Coal Co. lease in Pleasant district.

In Gilmer County, the McCall Drilling Co. has started drilling a test on the E. J. James heirs farm in Center district. The Hope Construction & Refining Co. is deepening the No. 1 on the Martha Turner farm, same district. In Troy district, the C. & H. Oil Co. has a rig standing for a test on the R. E. Garrett farm.

In Logan County, Zeibold, Rummell & Co. are down 1,350 feet in the test on the George Nichols farm in Logan district. The Boone County Coal Co. is rigging up the No. G-7 on their own property in this district.

Valves



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North Louisiana, Arkansas

By
J. R. CRUMPTON

RODESSA FIELD IS EXTENDED MILE WEST IN CASS COUNTY

SHREVEPORT, La., Apr. 6.—The featured new production development in Rodessa during the week was the extension of the proven lines in Cass County, 1 mile west on the southwestern trend of the field. American Liberty Oil Co. No. 1 D. A. Maxie, John Collum Survey, was one of the seven completions reported in the area. It gauged 35 bbls. per hour through one-half inch tubing choke and 1,000,000 feet of gas from total depth of 6,011 feet, subsea depth of 5,778 feet. Top of saturation was logged at 5,978-96 feet, tubing pressure registered 150 pounds and casing pressure 650 pounds. The completion adds a large area to the proven territory in Cass County.

Another highlight development was the completion of Haynes Production Co. No. 3 Otwell, section 14-23-16, in the record breaking time of 23 days, the well spudding in on March 10 and completing on April 1. It flowed 153 bbls. per hour through 1-inch tubing choke from total depth of 6,008 feet.

Arkansas-Louisiana Gas Co. No. 10 Rodessa Oil & Land Co., section 22-23-16, made 55 bbls. per hour on one-half inch tubing choke from 6,012 feet, tubing pressure 400 pounds. On the extreme northeast trend, Bartex Pipe Line Co. No. 2 Norton estate, section 17-23-15, made 11 bbls. per hour through one-eighth inch tubing choke from 6,025 feet, casing pressure registering 750 pounds and tubing pressure 700 pounds. R. W. Norton No. 1 Atkins, SE cor. NE NE section 18-23-15, gauged 68 bbls. per hour through one-quarter inch choke from 6,020 feet, tubing pressure 850 pounds and casing pressure 950 pounds. Less than a half mile south of this well, his No. 1 Spearman Unit in the same section appeared to be too far on the updip toward the gas area. It flowed 9 bbls. per hour of 64 gravity distillate with an estimated 5,000,000 feet of gas from 6,057 feet through one-eighth inch tubing choke. The hole was drilled to a total depth of 6,600 feet, and 7-inch casing stuck and was set at 6,051 feet and the hole plugged back and completed at the regular producing horizon. United Gas Public Service Co. No. 6 Tyson heirs, section 13-23-16, flowed 30 bbls. per hour through one-half inch tubing choke from 6,022 feet, top of saturation logged at 6,005 feet.

Converse Field

The shallow chalk rock field at Converse, Sabine Parish, accounted for two pumpers. Munroe Production Co. No. 1 Boyd, section 25-9-14, is producing 35 bbls. daily after treating with acid from 1,771 feet, and J. J. Watson No. 1 Cassell, section 30-9-13, is pumping 10 bbls. per day from 2,107 feet. Six gas wells, averaging from 5,000,000 to 12,000,000 feet were reported from three parishes in the Monroe field. Morehouse Parish registered two, Ouachita one and Union three. The gas from practically all of the wells is being used in the manufacture of carbon black. Six dry holes in widely separated areas consisted of one fairly deep test. W. C. McGlothlin and others No. 1 Brinker, section 10-23-4w, Claiborne Parish, was abandoned at the contract depth as dry at 4,525 feet. J. K. Wadley and others No. 2 Logan Oil Co., section 16-10-12, DeSoto Parish, tested a small show of oil at 3,184 feet and was abandoned in salt water at 3,295.

Estimated Production

Estimated daily gross production all companies week ending April 3:

NORTH LOUISIANA

	Bbls.
Bellevue	420
Caddo light	4,115
Caddo heavy	2,495
Converse	1,125
Cotton Valley	360
DeSoto and Red River	1,290
Elm Grove	425
Haynesville	3,355
Holly	145
Homer	2,590
Pleasant Hill	165
Rodessa	51,050
Sarepta-Carterville	500
Urania	2,630
Zwolle	1,320
Total	71,995

SOUTH ARKANSAS

Champagnolle	3,270
El Dorado	2,080
Lisbon	290
Miller County	1,090
Nevada	810
Smackover light	2,115
Smackover heavy	17,700
Stephens	565
Urbana	2,010
Total	29,930

United Gas Public Service Co. No. 2 Darrett, section 31-20-5, in the Sugar Creek field of Claiborne Parish, developed an estimated flow of 20,000,000 feet of gas on drill stem test from 5,484 to 5,655 feet. The flow was through three-eighths inch choke, bottom-hole pressure registering 1,700 pounds. The development is of considerable interest to operators in the North Louisiana area where several Oolitic lime gas fields hold possibilities of producing oil either at lower horizons in the Trinity or on the flanks of the present producing level. The test in the Sugar Creek well is about 1,200 feet deeper than the regular producing horizon around the 4,300-foot level. The well is being drilled jointly by United Gas, Standard Oil Co. of Louisiana and Triangle Drilling Co. and is coring at 5,743 feet. Arkansas-Louisiana Gas Co. No. 1 C. E. Causey, section 32-19-2w, deep wildcat northeast of Ruston, Lincoln Parish, topped red beds at 3,375 feet, lower Cretaceous at 3,568 feet and is drilling at 3,930 feet.

Leasing and blocking of acreage over the entire northwest Louisiana area continues at a brisk rate. Each week brings out one or more hot spots as the result of seismograph surveys based on the top of anhydrite zone. Henry E. Rondeau and others of Shreveport have derrick up on No. 1 Locke, section 9-15-10, Bienville Parish, with a contract to drill to the Oolitic lime of the Glen Rose. The test is surrounded by 5,000 acres and has been thoroughly surveyed geophysically. The same operator has assembled a large block in Morehouse Parish in the vicinity of Mer Rouge and will drill a 6,000-foot test.

Lide and others No. 1 Davis Brothers, section 12-16-5, Bienville Parish, has been completed as a gas well in Oolitic lime in the Glen Rose formation found between 5,865 and 5,886 feet. Perforated 7-inch casing was set opposite the pay section and the string continued to the bottom of the hole at 6,141 feet. Initial flow was 8,000,000 feet saturated gas. Well is 7 miles southwest of recent discovery in Lincoln Parish gas field. Production coming from a lower sand 563 feet deeper, but on same trend. Rock pressure 222 pounds. One well was drilled on geophysical high.

ARKANSAS

Phillips Petroleum Co. No. 1 J. D. Reynolds, section 27-15-15, Ouachita County, will hold the center of interest in this district during the coming week. The test, on the flank of the Smackover field, is reported to have cored 10 feet of sand with a show of oil from 4,906-16 feet. The crew is arranging to set 9⅝-inch casing at 4,903 feet. Top of lime was logged at 4,904 feet. Erwin & Leach No. 3 Bodcaw Lumber Co., section 20-16-23, Lafayette County, will also be in the limelight as it is running a string of casing with the total depth of 5,534 feet. This test caused a flurry of lease buying a few weeks ago, but a drill stem test from 3,460-91 feet had barren results. It is located on what is locally known as the Stamps structure and near the old Balcones Fault line. Joe Modisett No. 1 Red River Lumber Co., section 21-19-24, is drilling in hard shale and lime at 4,754 feet.

In Calhoun County, Ben G. Barnett No. 1 Freeman-Smith Lumber Co., section 36-15-14, has set 20-inch casing at 40 feet. A Dallas County test, Kel-Mac Lease & Royalty Co. No. 2 R. Owen, section 26-10-16, set 10-inch at 40 feet, cored sand with a reported show of oil at 156 feet and is drilling ahead at 280 feet. M. D. K. Fitzwater No. 2 Lafferty, section 17-14-24, Hempstead County, is arranging to test from total depth of 1,986 feet.

Union County shows signs of getting more into the active column. Edwin M. Jones and Charles H. Murphy have assembled a block centering around section 7-18-17, near the town of Schuler. It is in the southwestern part of Union County and carries a contract to drill to 6,000 feet, operations to begin by August 1. W. D. Wingfield and Mrs. Mamie S. McCurrie plan a deep test to 4,500 feet in section 9-17-16, in the center of the Lisbon field.

Cass County

With a mile extension farther into its area from Rodessa, Cass and adjoining counties should see more activity during the next few weeks. Two new locations were staked during the week, McInvane and others No. 1 Beckett, John Collum Survey, and R. W. Norton No. 2 Haywood, Priscilla Survey. American Liberty Oil Co. No. 1 Marcus Rembo, J. H. Reeves Survey, is drilling at 2,200 feet and R. W. Norton No. 2 Mary Rives, John Collum Survey, set 9⅝-inch at 2,140 feet and is drilling at 3,541 feet.

April Proration Order

Under authority of Act No. 13 of the Third Special Session of Louisiana Legislature of 1935, and of Section 2, Paragraph 4, of Act No. 127 of 1912, and of Section 1, Paragraph 13, and Section 2 of Act No. 253 of 1924, as amended by Act No. 123 of 1926, for the purpose of adjusting Louisiana oil production and proration quotas and for the conservation of the state's oil resources and prevention of waste, the allocation of oil production in the various fields of the state is hereby fixed as follows:

Fields—	No. of bbls.
South Louisiana:	
Basile	2,600
Bayou Choctaw	1,050
Black Bayou	2,500
Bosco	14,000
Bunkie	550
Caillou Island	11,950
Cameron Meadows	5,325
Darrow	1,300
Dog Lake	850
East Hackberry	7,350
English Bayou	6,500
Evangeline	1,500
Four Isle	500
Garden Island Bay	1,150
Gillis	7,000
Gueydan	250
Iberia	3,000
Iowa	19,000
Jeanerette	1,300
Lafitte	4,750
Lake Barre	9,750
Lake Hermitage	300
Lake Pelto	1,250
Lake Washington	1,200
Leeville	14,850
Lockport	1,400
Port Barre	2,500
Roanoke	5,500
St. Martinsville	850
Starks	550
Sulphurmines	3,000
Sweet Lake	1,100
Vinton	1,850
White Castle	950
Total South Louisiana	137,475
North Louisiana:	
Rodessa	45,000
Remaining fields	20,000
Total North Louisiana	65,000
Grand total state of Louisiana	202,475

No fields listed shall exceed amount herein allocated, except that where it is necessary for the purpose of safety and conservation, or the maintenance of proper oil-gas ratio, under regulations of the Department of Conservation.

Rocky Mountain Area

By T. R. INGRAM

COMPLETE THREE PRODUCERS IN MONUMENT DISTRICT, N. M.

DENVER, Colo., Apr. 7.—The Fremont Buttes Oil Co.'s wildcat in Washington County, Colorado, was abandoned without making a test. E. M. Butler and associates are moving in portable rig for a test to the Milliken sand in Adams County. The William E. Hughes Estate will keep two strings of tools running in the new Price pool in Archuleta County, where it recently completed a 2,000-bbl. well at 1,100 feet.

The Montana-Wyoming Oil Co. big gas well in the Garland field, Wyoming, which has been blowing wild since January 19, is now on fire. The Lance Creek field has upward of 25 wells in sight for this year's drilling campaign.

The Cut Bank field in Montana had two average completions and the Kevin-Sunburst field resumed activity with two completions and six new locations.

SOUTHEASTERN NEW MEXICO

The largest of three producers completed in the Monument district of southeastern New Mexico was the Texas Co. No. 1 Phillips, NW cor. section 6-20-37. It produced 4,656 bbls. of oil natural in the first 24 hours. The principal oil pay was found at 3,872-3,906 feet; total depth, 3,908 feet. Same operator's No. 2 State "F," C SE SE section 24-19-36, flowed 1,128 bbls. of oil natural through tubing and was completed. Gas gauged 446,000 feet. The oil pay was encountered at 3,880 to 4,023 feet, total depth. The third completion of the week at Monument was Gulf Oil Corp. No. 4 Culp, C SW NE section 19-19-37. It flowed 1,944 bbls. of oil natural through tubing in 24 hours and produced 1,995,000 feet of gas. Total depth was 3,988 feet in oil pay topped at 3,835 feet.

In the Eunice area, Tide Water Oil Co. set the pace with its No. 2 State "D," C SW SE section 16-21-36, which flowed 5,184 bbls. of oil through tubing in the first 24 hours after acidizing with 2,000 gallons. It had several shows of oil and gas, getting the best oil pay at 3,825 to 3,900 feet, total depth. Humble Oil & Refining Co. No. 1 J. D. Knox, C NW SE section 10-21-36, produced 216 bbls. of oil natural in 24 hours through tubing and was completed. Best oil pay was had at 3,840-65 feet, total depth. Continental Oil Co. had the third Eunice completion with its No. 4-A-18 Lockhart, C SW SW section 18-21-36. After acid treatment it flowed 201 bbls. of oil through three-quarters inch tubing choke in the first 24 hours, gas measuring 786,000 feet. Oil pay was topped at 3,844 feet; total depth, 3,927 feet in pay.

The only other New Mexico producer to be completed was the F. W. & Y. Oil Co. No. 73 State, NE NW NE section 10-19-28, in the Artesia district. It pumped 20 bbls. of oil in 24 hours after a shot with 150 quarts at 2,075-2,115 feet. Oil pay was had at 2,075 to 2,149 feet, total depth.

Monument Area

Texas Co. No. 2 Saunders, C SW SE sec. 18-19-37. Drlg. 2,621 ft.

Gulf Oil Corp. No. 5 Culp, C SE NE sec. 19-19-37. T.D. 4,000 ft.; acidized; wtg.

Texas Co. No. 1 State "G," C SE SW sec. 19-19-37. T.D. 3,850 ft.; set 7-in. pipe.

Oilwell Drlg. Co. No. 1 State "A," C SW NE sec. 29-19-37. T.D. 2,764 ft.; S.D. for wtr.

Gulf Oil Corp. No. 1 Luthy, C SW NW sec. 29-19-37. Drlg. 3,300 ft.

Amerada Pet. Corp. No. 1 State "O," C NW NE sec. 30-19-37. Drlg. 3,000 ft.

Continental Oil Co. No. 1-C-30 State, C NE NW sec. 30-19-37. Drlg. 3,404 ft.

Continental Oil Co. No. 2-C-30 State, C NW SW sec. 30-19-37. Drlg. 3,280 ft.

Ohio Oil Co. No. 1 State-Elliott, C NW SE sec. 30-19-37. T.D. 3,830 ft.; set 7-in. csg.

Amerada Pet. Corp. No. 1 Culp, SW SW SE sec. 31-19-37. Drlg. 3,140 ft.

Anderson & Prichard Oil Corp. No. 1 Britt "A," C SE SW sec. 6-20-37. T.D. 3,621 ft.; D.P. stuck.

Gulf Oil Corp. No. 2 Graham-State "C," C NW NE sec. 24-19-36. T.D. 4,060 ft.; acidized; flowed 7 B.P.H.

Amerada Pet. No. 1 Weir "A," C NW SW sec. 25-19-36. T.D. 3,959 ft.; acidized; testing.

Skelly Oil Co. No. 1 Christmas, C SW SW sec. 25-19-36. Drlg. 3,792 ft.

Amerada Pet. Corp. No. 3 Weir, C NW SW sec. 35-19-36. Drlg. 2,619 ft.

Shell Pet. Corp. No. 2 State "B," C NW NW sec. 36-19-36. T.D. 3,301 ft.; S.D. for repairs.

Amerada Pet. Corp. No. 2 Weir, C NW NW sec. 2-20-36. T.D. 3,930 ft.; tbg. to test.

Amerada Pet. Corp. No. 3 State "J," C NE SW sec. 2-20-36. Drlg. 3,053 ft.

Continental Oil Co. No. 1-A-3 J. L. Reed, C NE NE sec. 3-20-36. Drlg. 3,067 ft.

Gulf Oil Corp. No. 6 Culp, C NW NE sec. 19-19-37. Rig.

Gulf Oil Corp. No. 2 Graham-State "D," C SE SE sec. 19-19-37. T.D. 256 ft.; set 10¾-in. csg.

Shell Pet. Corp. No. 2 State "D," C NE SE sec. 19-19-37. Drlg. 1,265 ft.

Gulf Oil Corp. No. 1 G. C. Mathews, C SW SE sec. 6-20-37. T.D. 229 ft.; set 13-in. csg.

Gulf Oil Corp. No. 1 A. B. Reeves, C NW SW sec. 29-20-37. Wildcat; R.U.R.

Gulf Oil Corp. No. 3 Graham-State "C," C SW NE sec. 24-19-36. Cellar and pits.

Amerada Pet. Corp. No. 4 Weir, C SE NW sec. 35-19-36. T.D. 2,440 ft.; set 8⅝-in. csg.

Sun Oil Co. No. 5 Weir, C SW NE sec. 35-19-36. R.U.

Sun Oil Co. No. 6 Weir, C NW NE sec. 35-19-36. Loc.

Texas Co. No. 2 Mattern, C SW SW sec. 20-19-37. R.U.

Amerada Pet. Corp. No. 1 State "P," C NW SW sec. 29-19-37. M.I.M.

Amerada Pet. Corp. No. 1 State "R," C NE SW sec. 29-19-37. Cellar.

Amerada Pet. Corp. No. 2 State "O," C SW NE sec. 30-19-37. Bldg. rig.

Texas Co. No. 2 Phillips, NE NE NW sec. 6-20-37. R.U.R.

Amerada Pet. Corp. No. 1 Weir "B," C SW NE sec. 26-19-36. T.D. 296 ft.; set 12½-in. csg.

Amerada Pet. Corp. No. 2 Phillips, C SE NE sec. 1-20-36. Rig.

Amerada Pet. Corp. No. 2 State "H," C NW SE sec. 1-20-36. Cellar and pits.

Skelly Oil Co. No. 2 State "D," C NE SE sec. 1-20-36. Bldg. rig.

Texas Co. No. 4 State "E," C NE SW sec. 1-20-36. Cellar and pits.

Tide Water Oil Co. No. 1 State "F," C NW NW sec. 20-19-37. R.U.

Ohio Oil Co. No. 2 State-Elliott, C NE SE sec. 30-19-37. Cellar.

Continental Oil Co. No. 2-A-6 Britt, C NW SW sec. 6-20-37. Bldg. rig.

Fred Turner, Jr., No. 1 State "A," NE NW SW sec. 2-20-36. Cellar.

Eunice Area

Continental Oil Co. No. 6-B-4 Meyer, C S half SE NW sec. 4-21-36. Drlg. 3,785 ft.

Continental Oil Co. No. 7-B-4 Meyer, C NW SE sec. 4-21-36. Drlg. 3,349 ft.

Continental Oil Co. No. 8-B-4 Meyer, C SW NE sec. 4-21-36. Drlg. 3,280 ft.

Gulf Oil Corp. No. 8 Bell-Ramsey-State, C NW NW sec. 4-21-36. Rig.

Devonian Oil Co. No. 3 State-Heasley, C NE NE sec. 5-21-36. T.D. 3,735 ft.; set 7-in. casing.

Gulf Oil Corp. No. 1 Orcutt, C SW SE sec. 5-21-36. T.D. 3,862 ft.; drilled by at 2,670 ft.; cmtd. new hole.

Gulf Oil Corp. No. 2 Orcutt, C NE NE sec. 5-21-36. Drlg. 2,633 ft.

Humble O. & R. Co. No. 3 Adkins, C NE SW sec. 10-21-36. Rigging up rotary.

Gulf Oil Corp. No. 2 Bell-State "C," C SW NW sec. 15-21-36. Drlg. 2,640 ft.

Tide Water Oil Co. No. 3 State "D," C NE SE sec. 16-21-36. Drlg. 3,804 ft.

Continental Oil Co. No. 4-A-18 Meyer, C SW NE sec. 18-21-36. Drlg. 1,335 ft.

Gulf Oil Corp. No. 5 Arnott-Ramsey "C," C SE SW sec. 21-21-36. T.D. 3,792 ft.; set 5½-in. casing.

Gulf Oil Corp. No. 6 Arnott-Ramsey "C," C NE NW sec. 21-21-36. Drlg. 2,908 ft.

Continental Oil Co. No. 3-B-28 Lockhart, C NW SW sec. 28-21-36. T.D. 3,900 ft.; tubing to test.

Continental Oil Co. No. 4-B-28 Lockhart, C SW SW sec. 28-21-36. T.D. 3,930 ft.; tested 30 bbls. sulfur water; preparing to plug back.

Continental Oil Co. No. 5-B-28 Lockhart, C NW NE sec. 28-21-36. Drlg. 3,425 ft.

Empire G. & F. Co. No. 2 Felton, C SE NW sec. 28-21-36. T.D. 3,775 ft.; set 7-in. casing.

Humble O. & R. Co. No. 9 State "B," C NE SW sec. 29-21-36. T.D. 1,547 ft.; set 8⅝-in. casing.

Continental Oil Co. No. 2-A-30 Lockhart, C NE NE sec. 30-21-36. T.D. 3,983 ft.; testing.

Empire G. & F. Co. No. 4 State "D," C SE NE sec. 32-21-36, five-eighths mile N part of No. 157 lease; T.D. 3,930 ft.; swabbed 12 bbls. per hour after acidizing; reacidized; testing.

General Crude Oil Co. No. 1 State, C NW SW sec. 32-21-36, one-half mile NW part No. 157 lease. T.D. 3,974 ft.; 3,500 ft. fluid in hole.

Empire O. & R. Co. No. 5 State "D," C NE NW sec. 32-21-36. Rigging up rotary.

Gulf Oil Corp. No. 2 Janda "B," C NE SE sec. 32-21-36. T.D. 1,581 ft.; set 7⅝-in. casing.

Gulf Oil Corp. No. 1 Arnott-Ramsey "D," C NW NW sec. 33-21-36. Drlg. 3,638 ft.

Barnsdall Oil Co. et al No. 1 Hardy, C SE NE sec. 29-21-37. T.D. 3,800 ft.; hole full of oil; swabbed 175 bbls. of oil; acidized; flowed 225 bbls. in 24 hrs.; shut in.

The Texas Co. No. 1 State "H," C SE SE sec. 31-20-37, west offset No. 196 lease. T.D. 1,185 ft.; drlg. plug.

Shell Pet. Corp. No. 1 State-Endura "D," C SE NW sec. 11-21-35. T.D. 3,752 ft.; bailing to test.

Shell Pet. Corp. No. 1 State "H," C SE SE sec. 13-21-36. T.D. 3,904 ft.; swabbed 154 bbls. in 12 hours; acidized.

Continental Oil Co. No. 6-A-17 Meyer, C NW SW sec. 17-21-36. Building rig.

Continental Oil Co. No. 5-A-18 Meyer, C SE NE sec. 18-21-36. Rigging up.

Jim Murray No. 2 Wallace, C NW NW sec. 3-21-36. T.D. 250 ft.; set 10¾-in casing.

Continental Oil Co. No. 1-B-14 Lockhart, C SW NW sec. 14-21-36. Drlg. 50 ft.

General Crude Oil Co. No. 2 State "E," C NE SW sec. 32-21-36. Cellar.

Shell Pet. Corp. No. 1 State "E," C NE NE sec. 6-21-36. Cellar.

Gulf Oil Corp. No. 1 Janda "C," C NW SW sec. 15-21-36. Cellar.

Tide Water Oil Co. No. 4 State "D," C SE SE sec. 16-21-36. Location.

Peerless O. & G. Co. No. 2 State, NE NW SW sec. 29-21-36. Location.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25. Drlg. 1,035 ft.

Eddy County

Etz Bros. No. 2 State, C NW SW NE sec. 16-17-30. Drlg. 3,240 ft.; hole full of oil.

Ohio Oil Co. No. 1 State-McCullough, SE SW SW sec. 16-17-30. T.D. 2,772 ft.; hole full of oil.

Premier Pet. Corp. No. 2 Dexter "E," NW SW NE sec. 20-17-30. Drlg. 2,462 ft.

Tignor, Etz & Keys No. 1 Keys "B," sec. 3-17-28. T.D. 885 ft.; S.D. for repairs.

Red Lake Oil Co. No. 6 State, NE NE SW sec. 22-17-28. Drlg. 449 ft.

D. & B. Oil Co. No. 1 Jenkins, NW SW NW sec. 20-17-30. T.D. 3,258 ft.; testing; est. 200 B.P.D.

Dexter & Berry No. 1 Berry, NW NE NW sec. 21-17-30. Drlg. 1,470 ft.

Dooley & Dixon No. 1 Commerce, C W½ NW NW sec. 18-20-27. Drlg. 470 ft.

Tex Pattillo No. 2 Thompson, NE cor. sec. 1-20-28. Drlg. 915 ft.

Cooper Area

Republic Prod. Co. No. 1 Davis, C SW SW sec. 34-23-36. S.D. indefinitely.

General Crude Oil Co. No. 1 State "F," C SW SW sec. 2-24-36. T.D. 3,624 ft.; flowed 520 bbls. fluid in 24 hrs., 50 per cent water; acidized; testing.

Liberty Oil & Drlg. Co. No. 1 J. W. Hair, SW SW SE sec. 24-24-37. T.D. 1,620 ft. in anhydrite, salt and potash.

Plains Prod. Co. No. 1 R. L. Mosley, C NW SE sec. 34-24-37. Drlg. 3,175 ft.

Southern Oil Corp. No. 1 Vaughan, C SW SE sec. 15-24-36. Rigging up.

Southern Oil Corp. No. 1 Gates, C NW NW sec. 23-24-36. Rigging up.

Lea County—Miscellaneous

Culbertson-Irwin & Stovall No. 1 J. B. Humphrey, C SE SW sec. 3-25-37. Drlg. 3,028 ft.

Plains Prod. Co. No. 1 George Smith, C SE SE sec. 4-25-37. Drlg. 2,700 ft.

Culbertson-Irwin & Stovall No. 1 J. A. Stuart, C SW SE sec. 10-25-37. T.D. 3,294 ft.; hole full of oil; fishing.

Harry Leonard No. 1 Justice, SW NW NW sec. 20-25-37. T.D. 3,501 ft.; P.B. 2,970 ft.; fishing.

Harry Leonard No. 1 Leonard-Lanhart, C SW NE sec. 21-25-37 (on Humble acreage). T.D. 2,976 ft.; est. 30,000,000 ft. of gas and small spray of oil; trying to kill it.

Texas Co. and Repollo Oil Co. No. 1 Lanchart, C NE sec. 29-25-37. Drlg. 1,605 ft.

Stanolind O. & G. Co. No. 29 Cyrus Farnsworth, C SW NW sec. 18-26-37. T.D. 3,060 ft.; P.B. 3,050 ft.; D.S.T. showed 50 bbls. fluid per hour; P.B. 3,035 ft.; testing.

W. L. Todd et al No. 1 Lemon Permit, C NW SW sec. 17-21-32. Drlg. 3,740 ft.

Maljamar O. & G. Co. No. 6 Baisch, C NW SE sec. 21-17-32. T.D. 3,557 ft.; set 6⅝-inch csg.; est. 3,000,000 ft. gas.

Sun Oil Co. No. 1 Weatherly, C NE SW sec. 17-21-37, wildcat. Location.

Ohio Oil Co. No. 1 W. H. Turner, C NE SE sec. 29-21-37. Cellar and pits.

Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. Cellar.

Rowan et al No. 1 Mattern, C SE SW sec. 7-22-37. Moving in material.

Ohio Area

Ohio Oil Co. No. 1 State-Maxwell, C NE NW sec. 16-22-36. T.D. 3,926 ft.; flowed 140 bbls. fluid daily, 20 per cent water; acidized and waiting.

Shell-Devonian No. 1 Christmas, C NE NE sec. 21-22-36. Drlg. 3,555 ft.

Sims Area

Samedan Oil Co. No. 1 Parks, 330 ft. from S and 400 ft. from W lines, SW¼ sec. 14-22-37. T.D. 1,785 ft.; fishing.

Continental Oil Co. No. 1-A-22 Elliott, C SW SW sec. 22-22-27. T.D. 1,300 ft.; set 8⅝-in. csg.

Skelly Oil Co. No. 1 B. L. King, C SW SE sec. 32-22-37. T.D. 3,680 ft.; shot with 230 qts.; swabbed 75 bbls.; preparing to pump.

Skelly Oil Co. No. 1 Ella Simms, C SW NE sec. 3-23-37. Location.

Skelly Oil Co. No. 1 A. L. King, C SE NW sec. 4-23-37. Drlg. 3,662 ft.

Penrose & Rowan No. 2 Cary, C NE SW sec. 22-22-37. T.D. 220 ft.; S.D. for wtr.

Sun Oil Co. No. 1 Richards, C NE SE sec. 6-23-37. Drlg. 360 ft.

Hobbs Area

Shell Pet. Corp. No. 1 State "E," C E half SE SE sec. 14-18-37. T.D. 4,374 ft.; P.B. 4,178 ft.; shut in.

Sun Oil Co. No. 1 McKinley, SW SW NE sec. 20-18-38. T.D. 4,242 ft.; est. 15 bbls. daily; to pump.

Gulf Oil Corp. No. 4 North Grimes, SW SW NE SW sec. 21-18-38. Drlg. 4,027 ft.

J. P. Cusack No. 2 Moon "B," SW cor. NE sec. 28-18-38. Drlg. 3,404 ft.

Continental Oil Co. No. 3-B-13 State, C NE SW sec. 13-18-37. Drlg. 1,540 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e. Drlg. 1,200 ft. in sand and gravel.

McKinley County

Seward et al No. 1 State, NE SE SE sec. 2-19n-9w. Drlg. 535 ft. in shale.

Seward et al No. 1 fee, C NW SE sec. 35-20n-9w. S.D. 437 ft. in shale.

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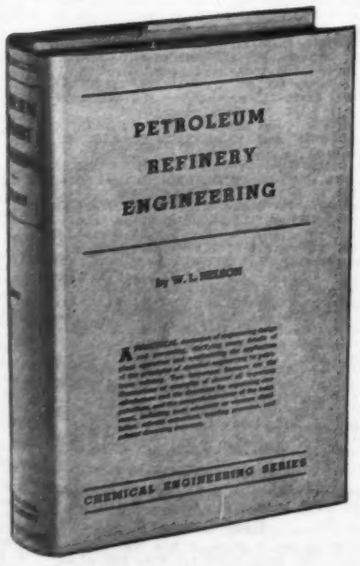

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THE OIL AND GAS JOURNAL

Tulsa Oklahoma

Dave Stacey No. 1 State, NE NE SW sec. 21-20n-9w. Drlg. 100 ft.

Forth & Hickerson No. 2 Santa Fe, NE NW NE sec. 29-20-9w. Drlg. 454 ft.; show of oil at 452 ft.

Foster & Clark No. 1 Railroad Land, NE NE NW sec. 29-20-9w. Rigged and ready to spud.

Montrose O. & G. Co. No. 1 State, NE NE sec. 28-20n-9w. Rigging up spudder (first report).

Harding County

Khaay et al No. 1 De Baca, C sec. 19-20n-31e. Running 8¼-in. at 847 ft.; 10-in. at 250 ft.

Quay County

Quay County Dev. Co. No. 1 Wallace, SW SW SE sec. 19-9n-33e. S.R. 816 ft.; rainbows at 814 ft.; show of S.W. at 775 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd., No. 1 Tierra Amarilla grant, NE sec. 26-3s-1e (unsurveyed).

San Juan County

Atchison & Galloway No. 1 Ptd., C SE SE sec. 19-29n-11w. R.U. machine (first report).

Continental Oil Co. No. 53 Tribal, SE SE NW sec. 2-29n-19w. Rig. (first report).

W. L. Hair No. 1 Hair, NE NW NE sec. 23-29n-11w. Set 8⅛-in. at 112 ft. (first report).

Jack Amenda No. 3, SW NW SW sec. 25-30n-12w. Drlg. 1,275 ft.; show of 22,000 ft. of gas at 935-65 ft.

Jack Amenda No. 4 fee, NW NE SW sec. 25-30n-12w. Drlg. 648 ft. in sand; water at 601-07 and 647 ft.

J. D. Cross et al No. 1 Wilson, SW SW SE sec. 17-30-11w. S.D. 810 ft.

Cross & Pool No. 1 Aztec, sec. 1-30-11w. Making water shutoff at 740 ft.

Nick Spatter No. 1 fee, C NE SW sec. 32-21-11w. S.D. 1,780 ft. in shale.

Southern Union Gas Co. No. 6 Government, C NW NW sec. 19-28-10w. M.I. machine.

San Miguel County

Cabra Springs O. & G. Co. No. 1 Cabra Springs ranch, SW NE NE sec. 22-12n-22e. T.D. 4,045 ft.; prep. to resume.

Sabra Springs O. & G. Co. No. 1 Jones ranch, SW SW SW sec. 31-12n-22e. T.D. 726 ft.; prep. to build standard rig to replace Fort Worth spudder.

Torrance County

45 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e. Drlg. 1,500 ft.; show of gas.

Bruce Frazier No. 1 Frazier, SE sec. 12-2n-31e. Drlg. 1,500 ft.; show wet gas.

COLORADO

Adams County

E. M. Butler and others are moving in a portable rig to drill to the Milliken sand, in which gas is expected, in its No. 1 Kate Edwards, NW SW SW section 15-3s-66w. Derby district, Adams County, Colorado. Location is approximately 1½ miles southwest of the Riddle Petroleum Co. No. 1 Baxter which drilled to 1,370 feet and missed the Foxhills and Milliken sand and went into the Pierre at around 1,251 feet. On the theory that the Milliken sand had feathered out on the top of the structure, the new test was located some distance out in the hope of picking up that horizon and finding a supply of gas for the deep test. The No. 1 Baxter deep test, which has been shut down at 700 feet waiting for drill stem, will resume as soon as drill pipe arrives from the Dutton Creek field in Wyoming, where it has been snowed in for some time. Moving in of the drill stem is expected next week.

E. M. Butler et al No. 1 Kate Edwards, NW SW SW sec. 15-3s-66w. M.I. portable rotary (first report).

Glenridge Oil Corp. No. 1 Hills, SE SE NE sec. 27-3s-64. T.D. 4,415 ft.; reemtd. caves; drlg. plug.

Riddle Pet. Co. No. 1 Baxter, C SW sec. 2-3s-6w. S.D. 700 ft. for D.P.

Archuleta County

Completion of the William E. Hughes Estate No. 4 Gramps, in the Price district, has been delayed by heavy snow which caught a truck load of pipe on Wolff Creek pass. It is shut down on top of the Dakota waiting for the pipe. The operator is going ahead with the systematic development of the new pool and will keep two strings of tools running. Nos. 6 and 7 Gramps will be drilled as soon as tools are released from Nos. 4 and 5. Location of these two wells have not been released.

Carl D. Lindstrom, of California, is moving in materials for a well on the Crowley fee land inside the Tierra Amarillo grant about 3 miles to the south and west of the Hughes producers and east of the river.

Wm. E. Hughes Est. No. 4 fee (unsurveyed), CSL SE SE sec. 24-33n-2e. S.D. on top of sand for pipe.

Carl D. Lindstrom No. 1 Crowley, SE SE SE sec. 3-32n-3e. M.I.M. (first report).

Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e. S.D. 1,515 ft.; top Dakota series 1,415 ft.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW) sec. 24-33n-3e. Ran 10-in. at 120 ft.

H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. Drlg. 937 ft. in dry hole.

Baca County

Paul Robb et al No. 1, NW NW NW sec. 24-32-48w. Drlg. and pit and wtr. well rig.

Cheyenne County

Brittel Oil Co., Inc., No. 1 Steip, C NE NW sec. 26-12s-47. Rigged up and ready to spud.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. S.D. 2,300 ft. acct. weather.

Jefferson County

Rainbow Oil Co. No. 1 Johnson, NE sec. 30-4s-68. Drlg.

Ruby Hill O. & G. Co. No. 1 Braden, SE cor. sec. 24-4n-69. S.D. 4,415 ft.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-35n-12w. T.D. 1,300 ft.; running 10-in.

Larimer County

The California Co. is preparing to drill a core hole to 500 or 600 feet in the C section 31-12n-68, Round Butte district to see that nothing has been overlooked in its test of that structure. It is approximately a mile to the north of its No. 1 State, SE SW NE section 6-11n-68, which had a small show of oil in the top of the first Sundance at 1,915 feet, followed by water in the other Sundance horizons. It was abandoned two months ago at 3,242 feet.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-52. S.D. 1,950 ft.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. Drlg. 1,427 ft.; 4½-in. at 1,410 ft.

Moffat County

Ohio Oil Co. No. 1 Robertson, C SW SW sec. 2-6n-92w. Location.

Texas Co. No. 7 Knowlton, NE cor. Lot

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8, sec. 10-4n-91w. T.D. 4,557 ft. in Sundance; swabbing; 6⅝-in. at 4,505 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-36n-17w. Contracted with Perry Coon to comp.; T.D. 3,705 ft.; preparing to drill by tools.

Park County

South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. Drlg. 4,126 ft.; 6¼-in. at 3,990 ft.; will U.R.

Routt County

Mid-Colo Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,860 ft. on account of weather.

Washington County

The Fremont Buttes Oil Co. No. 1 Gilcrest, SW SE SW section 22-3n-53, Fremont Buttes district, has been abandoned at 200 feet and rig moved away. Derrick was up late in 1932 at which time it was an operation of the Akron Oil & Development Co., which subsequently reorganized into the Fremont Buttes Oil Co.

WYOMING

Albany County

California Co. No. 3 Hoist, 1,650 ft. W of E line and 970 ft. N of S line, sec. 18-17n-77w. T.D. 3,295 ft.; redrlg. 3,035 ft.

California Co. No. 1 Wilson, NW SW SW sec. 18-17n-76w. R.U.R. to resume at 1,010 ft.

Big Horn County

The Montana-Wyoming Oil Co. No. 1 Allen, on the Garland structure, which blew in as a gasser, estimated at 60,000,000 to 100,000,000 feet a day, on January 19 and which has since been out of control, caught on fire at midnight on March 27 and was still burning at last reports. At 3,815 feet it came in as a gasser in the Embar-Tensleep and when it was shut in it began making water from the Dakota sand through the hole and through some old abandoned shallow wells nearby, the presence of which was unknown. In order to prevent cratering, the well was opened up. Then came the cold weather with temperature running far below zero and work had to be suspended. The drill pipe was neatly cut off by the rocks and pebbles at exactly 1,158 feet. As soon as the weather moderated (it went to 46° below zero) the 10-foot ice mound around the well was cut away and the 9⅝-inch was run to 570 feet to cement on to the 12½-inch to stop the cratering and permit fishing for the remainder of the drill stem. Then the well caught fire. Water is being pumped into the nearby holes in attempts to make the well cave and shut off the gas.

The Stock Oil Co., which is drilling the gasser, has made a location for its No. 1 Yates, one-fourth of a mile to the north. It is not intended to make this a relief well.

J. W. Bales No. 1 Parker, C SW SW sec. 22-4-89. S.D. 690 ft. for pipe.

Peter Evanhoff et al No. 1 McAllister, Lot 4, NW NE SE sec. 35n-87w. T.D. 2,350 ft.; C.O.

Ohio Oil Co. No. 1 Orson Vail, SW NW NE sec. 23-56n-97w. Location (first report).

Ohio Oil Co. No. 1 Robert Till, C SE SW sec. 34-56n-97w. Drlg. 1,355 ft.

Ohio Oil Co. No. 4 Byron Union, SW SW NE sec. 22-56-97. T.D. 5,735 ft.; Embar 5,587-5,710 ft.; top Tensleep at 5,710 ft.; sat. in top followed by water; P.B. to 5,719 ft.; recmtg.

Montana-Wyoming Oil Co. No. 1 Allen, 270 ft. from N line, 930 ft. from E line, Lot 52 (SE NW SE) sec. 32-56n-97w. T.D. 3,835 ft.; well out of control and on fire.

Peay Oil Co. No. 1 Denio, Tract 43-C, sec. 15-55n-97w. T.D. 3,890 ft.; swabbing to test S.O.; 8¼-in. at 3,800 ft.

J. H. Shaffer No. 1 Keachie, C SW SW sec. 5-49-61. T.D. 1,450 ft.; sidetracking tools at 1,366 ft.

Stock Oil Co. No. 1 Yates, CSL SW NE sec. 33-56n-97w. Loc. contract to Rocky Mtn. Drlg. Co. (first report).

W. O. Taylor et al No. 1 Hoskins, Lot 5 (SE SE) sec. 25-56n-97w. T.D. 5,270 ft.; fished. out D.P.; drlg. 4,920 ft. in new hole.

Campbell County

G. J. Sherin et al No. 1 Rhodes, NE SE C sec. 24-49n-74w. Derrick up, sump and reservoir completed (cor. loc.).

Carbon County

The General Petroleum Corp. No. 1 Whitford, SW SE SE section 24-20-84, Overland Dome, erroneously reported abandoned recently, has temporarily suspended at 3,582 feet after plugging back from 6,482 feet. It shot the G. P. sand at 3,500-80 feet with 40 quarts, after which it made approximately 200,000 feet of gas and 1,800 feet of fluid. It is estimated good for 18 to 20 bbls. of oil a day. Rig will be left standing to pump at a later date.

General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19n-83w. R.U.R.; drlg. W.W. at 160 ft.

Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w. Drlg. 700 ft.; 12½-in. at 515 ft. with 230 sacks.

Ohio Oil Co. and California Co. No. 3 Union Pacific, C NE SE sec. 23-21n-79w. R.U.R.

Ohio Oil Co. No. 1 State, SE SE NE sec. 34-20n-78w. Drlg. 3,050 ft. in shale (cor. loc.).

Ohio Oil Co. No. 9 H. & C., SW SW SW sec. 35-20n-78w. R.U. to deepen old well from 3,102 ft. to Sundance.

Ohio Oil Co. No. 1 Dixon, NE NE SE sec. 34-20n-78w. O.W.D.D. from 2,934 ft.; R.U. (first report).

Ohio Oil Co. No. 2 Dixon, SE NE SE sec. 34-20n-78w. R.U. to deepen old well from 3,094 ft. to the Sundance.

Ohio Oil Co. No. 1 State, SE SE NE sec. 34-20n-78w. T.D. 3,290 ft.; cmtg. 4½-in. liner in top of Sundance at 3,220 ft.

Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w. S.D. 4,440 ft.; cleaning off snow to resume.

Converse County

John Ackert No. 1 Daniels, SW SW NE sec. 17-32-71. S.D. 4,004 ft.

Fremont County

The Tropic Oil Co. No. 1 Government, C SE SW section 34-27-90, on the north flank of the Lost Soldier pool, is indefinitely suspended at 2,530 (C.D.) feet.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96. T.D. 4,325 ft.; 6⅝-in. at 4,127 ft.; setting bridges to locate water.

Ohio Oil Co. No. 73 Mill Iron Cattle Co., NE SW SE sec. 19-46n-98w. Digging mud pits.

Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w. Drlg. 3,815 ft.

Lincoln County

Senrab Oil Corp. No. 3 Government, CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.

Natrona County

Empire State Oil Co. No. 15, NW SE NE sec. 11-33n-83w. Set 8¼-in. at 852 ft.

Niobrara County

Details of the arrangement whereby Lance Creek crude will be shipped to eastern markets through the Stanolind Pipe Line Co. trunk line to Freeman, Mo., are reported nearing completion. Pending the signing of the agreements, no official statement has been given out. The Illinois Pipe Line Co. recently applied for a permit to build a 40-mile line from Lusk to a connection with the Stanolind line at Fort Laramie. The North Central Gas Co. some time ago completed its own line to replace that portion of the Stanolind trunk line which it leased for the transportation of gas and the link replaced will be turned back to the Stanolind company. Lance Creek crude will move with Stanolind Crude Oil Purchasing Co. crude which has been stored for a number of years at the Clayton tank farm near Douglas. Parties to the negotiations, which include supplies of crude for shipment, the construction of the connecting link and for plant to mix the crude are the Standard Oil Co. (Indiana), the Ohio Oil Co., the Argo Oil Co. and the Continental Oil Co. Several weeks may elapse before any official statement is given out.

Lance Creek will be very active the coming summer. The Continental Oil Co. made two locations this week in the series of nine wells it will drill. The Ohio Oil Co. will drill as many and probably more and altogether there are around 25 wells in sight for

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the field this year. The Continental company is now building an absorption plant in the field and a gasoline line from the field to Manville, to which point it built an oil line last fall.

Argo Oil Co. No. 7 Elliott, C NE NW sec. 5-35n-65w. Drlg. 2,160 ft.
Argo Oil Co. No. 6 Elliott, C SE NW sec. 5-35n-65w. Coring shale at 3,675 ft.
Black Hills Ref. Co. No. 1 Mills Est., C SW NW sec. 27-36n-64w. Spudded and S.D. account of weather.
Continental Oil Co. No. 6 Rohlff, C SW SW sec. 32-36n-65w. Loc. (first report).
Continental Oil Co. No. 4 Joss, 90 ft. E of C SW NE sec. 6-35n-65w. Loc. (first report).
J. H. Huber Co. No. 1 Jones, NE SE NW sec. 6-25n-65w. T.D. 4,096 ft.; P.B. to 4,032 ft.; running 2-in. tubing and R.U. for pump test.
Ohio Oil Co. No. 3 Agnes Rohlff, C SE NE sec. 32-36n-65w. Drlg. 2,160 ft.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w. Drlg. 3,979 ft. in lime shells and sand.
Ohio Oil Co. No. 3 Richards & Comstock, C NE SW sec. 32-36n-65w. Spudding.
S. & H. Dev. Co. No. 1-A Olinger, SE NE NW sec. 1-36-63. S.D. 1,674 ft.

Sheridan County

Beaver Creek Oil Co. No. 1- Allison, SW SE sec. 15-55n-85w. S.D. 3,050 ft.

Uinta County

Intermountain Pet. Corp. of Utah No. 1 Union Pacific-zayes, SW NW SW sec. 24-19n-118w. Drlg. 1,575 ft.
W. D. Marshall No. 1 Government, NW SW SE sec. 12-15n-118w. S.D. 1,260 ft.

Washakie County

Ariton & Doyle No. 1 Government, SW SW SE sec. 29-43-91w. S.D. 1,115 ft.
Wyoming O. & G. Co. No. 2 Government, SW SW SW sec. 31-46-90. T.D. 1,404 ft. (cor.); fsg. for tools.

Weston County

Conway Oil Corp. No. 1, SE SE NE sec. 7-41n-60. Fsg. for tools at 2,097 ft.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-32e. T.D. 3,000 ft.; fsg. tools.

Fallon County

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-3n-62e. T.D. 6,349 ft.; bit sidetracked and cmtd. in wall.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. (cor.). Drlg. 310 ft.
Judith Operation Co. No. 1 Government, C SW SW sec. 26-22n-17e. S.D. 1,052 ft. (cor.).
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e. Drlg. 576 ft.

Glacier County

There were two completions and one new operation in the Cut Bank field. Wilkerson and others' No. 1 Tribal, SW SE NE section 31-33n-5w, in the southern end of the field, swabbed 110 bbls. the first nine hours at 2,795 feet, total depth, from the pay at 2,775-93 feet. Elevation is 3,488 feet. This is an isolated location, although in what was considered proven territory. It is approximately 1 mile east and the same distance west of the nearest producers.

Kincheloe-Hanlon No. 1 State, SE SE SE section 25-33-6w, swabbed 110 bbls. first eight hours at 2,837 feet, total depth, from the pay at 2,820-34 feet.

Anderson et al No. 2 Anderson, NE SW NW sec. 24-35n-6w. Spdg. at 240 ft.
A. D. Cobb No. 5 Walberger, C NE NE sec. 25-36n-6w. Rig.
Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w. Drlg. 1,770 ft.
A. E. Crumley No. 1 Tribal, C SW SE sec. 31-33n-5w. Colo. at 545-50 ft.; 10-in. at 574 ft.
Dakota-Montana Oil Co. No. 4 Winkler, SW NE NW sec. 24-35n-6w. Rigging.
Gardner et al No. 1 Cole, C NE SW sec. 2-32n-6w. Drlg. 1,475 ft.; 10-in. 725 ft.
Goodman Oil Co. No. 1 Tribal, SW NW SW sec. 25-33n-6w. Spdg. 160 ft.
B. V. Hole No. 1 Tribal, C NW SW sec. 24-33n-6w. Cellar (first report).
L. P. Jackson et al No. 1 Tribal, NW SE NW sec. 22-34n-7w. Ready to spud.
R. C. Jeffries No. 4 Lukens, NE NE NE sec. 12-33n-6w. T.D. 2,610 ft.; C.O. 1,300 ft.
Jack Marshall No. 2 Tribal, 140 ft. S of N line and 200 ft. E of W line, Lot 7, sec. 7-32-5w. S.D. 2,915 ft. indef.; rig moved off.
Montana Headlight Oil Co. No. 3 Britton, NE NE SE sec. 11-34n-6w. Rigging (first report).
Montana Power Gas Co. No. 1 Eisler, 940 ft. WE and 1,980 ft. NS sec. 5-33n-5w. Drlg. 1,560 ft.
Montana Power Gas Co. No. 2 Coburn, C NW NE sec. 8-33n-5w. Drlg. 2,120 ft.
Nadeau Bros. No. 1 Tribal, C Lot 4, sec. 6-32n-5w. T.D. 2,845 ft.; drlg. by tools.
Par Oil Co. No. 6 Haines, NE SW NE sec. 2-34n-6w. Drlg. 1,415 ft.
Santa Rita O. & G. Co. No. 6 Tribal, 660 ft. S of C W line, sec. 15-35n-6w. T.D. 2,911 ft.; C.O. at 2,885 ft.
Santa Rita O. & G. Co. No. 7 Tribal, 1,980 ft. S of N line, 1,320 ft. W of E line, sec. 16-35n-6w. Drlg. 1,230 ft.; 10-in. at 345 ft.; Colo. at 570 ft.
Santa Rita O. & G. Co. No. 1 Shearon, 660 ft. S of N line and 349 ft. W of E line, sec. 34-36n-6w. T.D. 3,092 ft.; dropped 7-in. 15 ft. off bottom.
Santa Rita O. & G. Co. No. 1 Corey, NE NW SE sec. 5-32n-5w. S.D. 2,959 ft. for spudder.
Santa Rita O. & G. Co. No. 1 Barrington, SE SW NW sec. 24-33n-6w. Spdg.
Neil Spencer No. 2 Tweedy, 925 ft. NS line, 1,980 ft. WE line, sec. 25-33n-6w. Stdg. rigged.
R. C. Tarrant No. 6 Britton, C SE SW sec. 12-34n-6w. S.D.; rig.
R. C. Tarrant No. 3 State, C NE SE sec. 36-35n-6w. Drlg. 2,485 ft.
R. C. Tarrant No. 2 State, C NE SE sec. 34-34n-6w. Drlg. 2,870 ft.
R. C. Tarrant No. 7 Haglund, Jr., C SW SW sec. 13-34n-6w. Drlg. 1,640 ft.
R. C. Tarrant No. 2 Reikhoff, SE NE SE sec. 3-34n-6w. R.U.
Texas Co. No. 5 fee, 660 ft. N of SW cor. sec. 15-35n-6w. Drlg. 2,855 ft.
Texas Co. No. 1 Marie Jones, C NW SW sec. 6-33n-5w. Drlg. 1,200 ft.; Colo. at 520 ft.
Texas Co. No. 1 Walker, C NE NE sec. 2-35n-6w. Drlg. 2,907 ft.
Texas Co. No. 1-B Tribal, Lot 4, 1,300 ft. from W line, 200 ft. from S line, sec. 2-33n-5w. Cmtd. 10¾-in. at 300 ft.
Texas Co. No. 1-A Tribal, C SW NE sec. 26-33n-6w. R.U.R.
Whetstone et al No. 1 Tribal, C SE NW sec. 26-33n-6w. Drlg. 575 ft.

Petroleum County

West Dome Oil Co. No. 1, SW SE NE sec. 9-15n-29e. Drlg. 851 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. Drlg. 431 ft.
Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. Loc. (first report).

Pondera County

Wm. M. Fulton No. 1 Price, SW NE NE sec. 18-27-4w. Drlg. 1,918 ft.
Norden Corp., Ltd., No. 1 Hollan, NW SW NW sec. 12-28-6w. Resuming at 582 ft.
Warren Hastings No. 2 Erickson, NW SW NW sec. 10-27n-4w. Rigging (first report).
Texas Co. No. 1 Valier Unit No. 1, C NW SE sec. 32-31n-5w. M.I.M.

Toole County

The Kevin-Sunburst field, in which practically all operations have been at a standstill for the past two months on account of the cold weather, showed a lively spurt the past week with two completions and six new operations. Included among the latter were three locations by the Continental Oil Co., the first drilling it has done in the field in several years. Last year the Ohio Oil Co. and the Texas Co. each drilled several wells. Two of these, Nos. 7 and 8 State, offset the Ohio company's Emert lease, and the third, No. 9 State, offsets the New Era Oil Co.'s Halter lease.

Huso Brothers No. 3 Government, SW NE SE section 14-35-3w, which was reported a completion before acidizing last week for 8 bbls. a day, was treated with 500 gallons and became a flowing well, making 200 bbls. naturally first 24 hours. The other completion was Fred R. Munger No. 1 Barth, SW NE NW section 13-35-2w, which was a failure at 1,546 feet after giving it another dose of acid.

Stanley Gray, of Minneapolis, has purchased 1,000 acres in sections 17 and 18-35n-2w and sections 12, 14 and 24-35n-3w, from Dr. B. A. S. Aronow, of Shelby, for a consideration of $25,000 in cash and royalties which were reserved. Doctor Aronow, who operates refineries at Kalispel and Havre, has considerable production in the field which he retains.

A. E. Crumley No. 8 Shaw, SE NW SE sec. 35-36n-2w. Drlg. 850 ft.
Agen & Goodderts No. 1, C SE NE sec. 16-35n-3w. Loc. (first report).
Big West Oil Co. No. 1 Dalquist, SW NE NW sec. 21-32n-5w. Loc. (first report).
Carscallen & Mitchener No. 1 Krueger, 1,320 ft. W of E line, 1,980 ft. S of N line, sec. 10-34n-2w. T.D. 1,650 ft. Prep. to acidize.
Coolidge & Coolidge No. 1 State, NW NW NW sec. 36-36n-2w. Rigging (first report).
Continental Oil Co. No. 7 State, SE NE NE sec. 16-35n-2w. Loc. (first report).
Continental Oil Co. No. 8 State, NE SE NE sec. 16-35n-2w. Loc. (first report).
Continental Oil Co. No. 9 State, SE SW NE sec. 16-35n-2w. Loc. (first report).
Monopeg Oils, Ltd., No. 3 Dipple, CSL SW NW sec. 28-35n-1w. T.D. 1,450 ft. R.U. to drill in.
Burt Smith No. 1 Engel, SE SE NE sec. 2-35n-3w. R.U.
Welch Bros. No. 1 Dewald, SW NE NE sec. 26-35n-2w. M.I.R. (first report).

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-35n-20e. Prep. to resume at 148 ft. under new management.
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22n-22e. Drlg. 3,830 ft.
Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31n-16e. Drlg. 900 ft.

Canadian Fields

(Continued from Page 54)

the lime. After being shut in it would gush for a short time and then pinch down, potential production by heads being estimated 40 bbls. a day, with possibilities of 100 bbls. on the pump. It may be deepened in the lime after testing the Sunburst formation. Nordon Corp. has overriding royalty on some 7,000 acres including the Terminal lease. Some 10 different syndicates or individuals have subleased Terminal acreage and several additional tests are being planned. Sunshine Oil Co. of Vancouver holds 6,000 acres farther north on the same structure, with tentative location in LSD 10, section 19-1-21w4. H. H. Reid, president of the Sunshine company, has officially denied reports of a contract for three wells.

The Del Bonita structure is approximately 50 miles south of Lethbridge and 30 miles north of the Cut Bank field.

On the Twin River structure, 10 miles east of Terminal No. 1, E. H. Rosenburg No. 3 Twin River, LSD 9, section 10-2-20w4, will resume from 333 feet as soon as the Terminal well is completed.

Turner Valley Field

In the North Turner Valley field, Royalite Oil Co. No. 27, LSD 4, section 23-20-3w5, is testing production from the Madison limestone at 5,570 feet and looks like a small producer.

In section 28-18-2w5, South Turner Valley, Turner Valley Royalties No. 1, LSD 13, is below 5,010 feet and logging satisfactorily. Renfrew Royalties' No. 1 Morris & Goodfellow, LSD 3, same section, is cleaning out preparatory to drilling into the lime from 6,020 feet.

Farther south, in section 21-18-2w5, Highwood-Sarcee Oils No. 2, LSD 1, is below 3,090 feet.

Jumping Pound Tests

Imperial Oil, Ltd., is starting two shallow tests in the Jumping Pound area west of Calgary. Imperial No. 3 Bow River, LSD 6, section 31-24-4w5, is rigged ready to spud, and No. 4 Bow River, LSD 2, same section, is working on derrick. Locations are a little south of Imperial No. 2 Bow River deep test, which got good shows of crude around 706 and 1,068 feet, and maintains some gas production. The Imperial company is planning to give the area a thorough test for shallow oil.

Tests in the Foothills

On the Aldersyde structure east of Turner Valley, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is below 6,695 feet with small oil and gas shows continuing. Farther east and south, Arca Development Corp. No. 1, section 24-18-1w5, is waiting for derrick timbers.

On the Watson structure north and west of Lundbreck, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, is in a hard sand of the Blairmore below 4,104 feet with a slight increase in gas flow.

Little Coulee Operations

On the Little Coulee structure, in the foothills northwest of Calgary, Carl Olson and associates have spotted a tentative location and are hauling timbers and equipment. The test is expected to spud early in May.

Oyen Gas Operations

South of the town of Oyen in eastern Alberta, on the Canadian National line from Calgary to Saskatoon, Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary has secured a prospecting permit on a block of 65,000 acres in Townships 25, 26 and 27, Range 4w4. The company is planning to test the area for gas, which will be held as a reserve to supplement the Turner Valley production when necessary. The acreage is north of the location of Fuego Oils No. 1, LSD 16, section 34-25-4w4, and was drilled about 1930 to 3,182 feet. It got the Paleozoic lime at 3,100 feet with six gas shows and three shows of heavy crude, including both oil and gas in the lime at 3,133 feet. The Canadian Western company will likely start work on its Oyen acreage this spring. It has also secured a prospecting permit in the Flatbush area north of Edmonton, and is participating in the Arca Development Corp.'s test east of the Turner Valley.

Northern Alberta

In northern Alberta, Abasand Oils, Ltd., financed by United States capital, is preparing to undertake the production of oil from the bituminous sand deposits of the Athabaska district. C. C. Ross, minister of lands and mines for Alberta, visited Ottawa recently to correlate the arrangements between the federal and provincial governments and the company. The concessions secured by the Abasand company include 640 acres of the Horse River Reserve, leased from the National Parks Branch, and subject to a royalty to the federal government of 5 cents a barrel on crude bitumen and 5 cents a ton on untreated tar sands sold by the company. The federal government will take royalty payments in bitumen, gasoline or other products. The federal agreement specifies that operations must reach 50,000 tons of bituminous sand the first year and 100,000 tons the second.

A lease covering approximately 6,000 acres has also been secured from the Alberta government on somewhat similar terms, the Alberta government agreeing to buy at least 50 per cent of its requirements of oil and asphalt from the company. Arrangements have been made for construction of a road from railhead at Waterways to the plant location. After this is completed, plant equipment will be moved in. Operations will involve the distillation of the bitumen to produce oil and possibly a certain amount of cracking to produce gasoline and light lubricants. Economic operation of the plant depends largely on the satisfactory mar-

(Continued on Page 84)

Oklahoma Operations

By DAL DALRYMPLE

MOORE WELL BIG PRODUCER; SOUTHWEST SECTOR REVIVED

In one of the busiest weeks in Oklahoma oil circles in recent months several important wells in widely scattered fields found rich pay, the deep test in Carter County neared a decision after months of delay, one oil company acquired control of another, and the state of Oklahoma began preparations to drill at least five wells on state owned lands in the Capital City area.

The second producer in the Moore area in northern Cleveland County found oil in Wilcox sand and revived interest in that district. The Sinclair Prairie Oil Co. and others No. 1 Marvel, NW SW NE section 21-10-2w, one-half mile north of the discovery well, had Wilcox sand at 7,240-67 feet and flowed 870 bbls. of oil in five hours through drill pipe. Field men who watched the performance estimated the well would produce as high as 1,000 bbls. of oil an hour through casing when completed, with gas estimated ranging from 50,000,000 to 100,000,000 feet. It was to be tested early in the week. The discovery well, which has been producing 100,000,000 feet of gas and 1,900 bbls. of "gasoline" a day, is to be classified as an oil well and prorated to 100 bbls. a day by W. J. Armstrong, chief conservation officer, it was reported at Oklahoma City. Work already has started at two new locations in the Moore area.

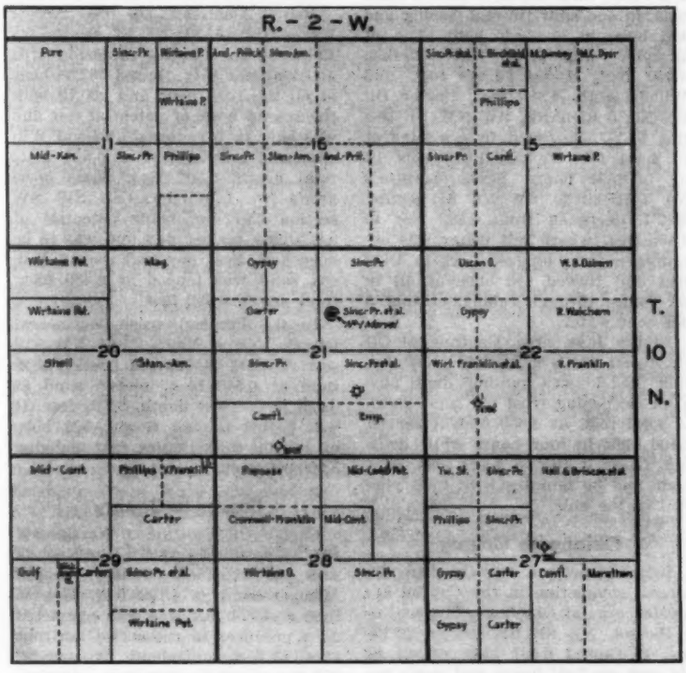
Southwestern Oklahoma got its biggest oiler to date with Gulf Oil Corp. No. 4 Boucher, SE SW SW section 32-1-19w, in the Humphreys area of Jackson County. It had Cisco pay at 2,652-54 feet and produced 730 bbls. of oil in 3 hours and 30 minutes before shutting in. It was to be tested as soon as tankage was erected. The first three wells to be drilled on the Boucher tract where completed as small producers in upper Cisco pay and are due to be deepened to the lower Cisco, producing level for No. 4 Boucher. A revival in activity in that part of the state is expected to result from the new discovery.

Big Edmond Gasser

In the Edmond area of Oklahoma County, Marathon Oil Co. No. 1 Dahl, NE SE SE section 31-14-3w, was bailed in and produced 100,000,000 feet of gas daily to make it the biggest gasser in the field. Checking higher structurally than any other well in the district, it was drilled to 7,309 feet in Arbuckle lime and when that horizon proved unproductive was plugged back to Wilcox sand at 6,400 feet. It also produced 15 bbls. of "gasoline" in 40 minutes, or at the rate of 480 bbls. daily.

The South Burbank area of Osage County was extended one-fourth mile northwest by Skelly Oil Co. No. 1 Smith, SE SW NW section 26-26-6, which flowed 2,435 bbls. of oil in the first 24 hours. It was producing from Bartlesville sand at 2,835 to 2,945 feet, total depth. It is on a tract which the Skelly company bought at the February lease sale for $16,000.

Several more good producers were reported in the prolific Fitts field of Pontotoc County. Of major interest among these was E. H. Moore and others No. 5 Harper, SW NW NE section 29-2-7, which produced 558 bbls. of oil in six hours through tubing after acidizing Hunton lime at 3,470-3,555 feet, total depth. Development of Hunton lime production along the north side of the Fitts area has been a feature of recent activity in that sector.



Sinclair Prairie Oil Co. and others No. 1 Marvel, NW SW NE section 21-1-2w, a big producer, has revived interest in the Moore pool, Cleveland County, Oklahoma

(Mid-Continent Map Co., Tulsa)

In Extension Area

Intensive development programs for the Capitol extension area of the Oklahoma City field continued during the week, following the city election that opened up new districts to drilling. The new district had a total of 124 operations at last report, including 17 producers, 17 drilling wells, 53 tests getting ready to drill, and 37 locations. Barnsdall Oil Co., which has been setting a fast pace in acquiring leases in the Oklahoma City area, completed negotiations during the past week for acquisition of Midway Oil Co., a Delaware corporation, on an exchange of stock basis. The property involved consists of about 10 acres of proven area in the Oklahoma City sector and on which several wells are drilling and locations for others made.

With all these varied activities bidding for the spotlight, the Carter Oil Co. and others No. 1 Williams, SW NE SW section 27-2s-3w, deep test in the Fox field of Carter County, maintained first place in the interest of the oil fraternity as it neared a test. Bottomed at 8,105 feet, with pipe set at 8,015 feet, it was looking favorable for gusher production. Last October it blew out at 8,088 feet and showed for production estimated as high as 10,000 bbls. daily. The Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW section 26-6s-2w, in Love County, another southern Oklahoma test that showed for 150 bbls. of oil at 6,914 feet and opened a new pool, was drilling ahead below 7,000 feet, seeking a deeper sand at around 7,165 feet.

Pontotoc County

Skelly Oil Co. No. 6 Park College, NE NE NW section 28-2-7, in the Fitts pool of Pontotoc County, made potential of 4,327 bbls. of oil and was completed. Gas gauged 3,468,000 feet. Bromide was topped at 4,130 feet; total depth, 4,314 feet. It was washed for two days and flowed only 15 bbls. in one hour before acidizing with 10,000 gallons. Magnolia Petroleum Co. No. 1 Burris "B," SW SE NE section 28-2-7, topped Bromide at 3,945 feet; total depth, 4,305 feet. It flowed 73 bbls. of oil in one hour through tubing and 144 bbls. in one hour through casing on gas lift. It then was acidized and flowed 593 bbls. gross the first hour and 181 bbls. the next 30 minutes. It made potential of 3,487 bbls., with 1,990,000 feet of gas, and was completed.

Magnolia Petroleum Co. No. 4 Burris "A," SE SW NW section 27-2-7, was completed as a Bromide and upper McLish producer, making potential of 3,266 bbls. Top of Bromide was 3,980 feet; McLish, 4,180 feet; total depth, 4,260 feet. It was acidized and flowed 363 bbls. gross in the first half hour through casing and 231 bbls. the next one and one-half hours through tubing. Gas measured 2,392,000 feet. Continental Oil Co. No. 1 Holkum, NW NW SE section 27-2-7, made potential of 4,044 bbls. of oil, with 1,947,000 feet of gas, and was completed at total depth of 4,275 feet. Top of Bromide was 3,900 feet; McLish, 4,119 feet. It flowed 632 bbls. the first hour through casing and 580 bbls. the second hour. E. H. Moore and others No. 2 Norris, NE NW NE section 35-2-6, topped Viola lime, the producing formation at 4,296 feet; total depth, 4,451 feet. After acidizing with 8,000 gallons, it made potential of 1,615 bbls. of oil, cutting 25 per cent water. Gas gauged 1,096,000 feet. Fleetborn Oil Corp. No. 1 Morin, SE cor. section 20-2-7, topped Hunton lime at 3,540 feet and was completed as a producer in that formation at 3,852 feet, total depth. It was acidized and flowed 290 bbls. gross in one hour and 190 bbls. the second hour through tubing. It later flowed 100 bbls. in three hours through one-half inch tubing choke. George Manahan and others No. 8 Reynolds-Wagner, NW NW SW section 17-2-7, had sand at 1,739-58 feet; total depth, 1,761 feet. It was shot with 15 quarts, swabbed 60 bbls. in 15 hours and pumped 45 bbls. in nine hours and was completed.

In the Steedman area, Clark & Cowden and W. A. Delaney No. 3 Brown, NW SE NE section 12-4-7, topped water sand at 1,910 feet and was dry and abandoned at 1,961 feet, total depth. Mary F. Oil Co. No. 2 White, SE NW SE section 16-5-8, topped Allen sand at 925 feet; total depth, 945 feet; pumped 5 bbls. of oil in 24 hours and was completed.

The following new work was reported in Pontotoc County: E. H. Moore and others No. 1 Akers, NE NW NE section 36-2-6, old well

plugged back from 4,394 feet to 4,318 feet, testing; Stahl Petroleum Co. No. 4 Dennis, SE SW SW section 21-2-7, cellar and pits; Blackstock & Deaner No. 1-A Moody, NE cor. section 27-2-7, location; same operators' No. 2 Moody, SW cor. section 23-2-7, cellar; J. E. Crosbie, Inc. No. 3-B Burris, SW SE NW section 27-2-7, rig corners; same operator's No. 1-B McKoy, SW NE NE section 28-2-7, cellar; Skelly Oil Co. No. 10 Park College, NE NW NE section 28-2-7, building rig; same operator's No. 11 Park College, NW NW NE section 28-2-7, cellar; Phillip Boyle No. 1 Crist, SW SE SW section 30-5-4, moving in material.

Estimated Production

Estimated daily average production of Oklahoma for the week ending April 4 and for the preceding week is as follows:

	Barrels	
	April 4	Mar. 28
Allen	6,800	6,775
Asher-West Asher	850	850
Burbank	7,300	7,300
South Burbank	12,600	13,500
Balance Osage	23,500	23,750
Blackwell	4,250	4,450
Bristow-Slick	8,050	8,250
Chandler	2,800	2,850
Crescent	5,400	5,350
Cromwell	2,875	2,900
Cushing-Shamrock	11,300	11,500
Duncan district	2,900	2,925
Edmond	5,650	10,450
Fish	11,000	11,175
Fitts	46,400	45,450
Gray	1,600	1,700
Graham	2,975	3,825
Healdton	8,825	8,900
Hewitt	4,425	4,450
Holdenville	1,125	1,100
Keokuk	3,800	5,500
Konawa	1,850	2,125
Lucien	11,250	11,500
Marshall-Lovell	1,000	1,025
Oklahoma City	150,500	158,250
Olympic	5,025	4,900
Papoose	1,180	1,675
Polo	3,600	3,550
Sasakwa and townsite	3,600	3,950
Shalem-Alechem	3,525	3,450
Seminole field:		
Bowlegs	12,480	12,025
Carr City	5,250	6,500
Earlsboro	7,650	7,825
South Earlsboro	1,025	950
East Earlsboro	11,125	11,625
Little River	13,000	13,550
East Little River	1,125	1,200
Maud	1,000	1,000
Mission	2,500	2,425
Seminole	10,525	11,150
East Seminole	1,675	1,675
Searight	5,375	5,450
Total Seminole	72,650	75,975
St. Louis-Pearson	22,975	23,325
Tatums	3,500	3,550
Tonkawa-Garber-Thomas	5,700	5,650
Wewoka	2,900	3,500
Yale-Jennings	4,050	4,050
Other pools	53,750	53,500
Total Oklahoma	527,480	546,025

Near Completions

Fleetborn Oil Co. No. 2 J. Norris, SW NW NE section 25-2-6, was acidized after topping Bromide at 4,350 feet and drilling to 4,395 feet, flowing 200 bbls. of oil gross in 20 minutes and 480 bbls. the next eight hours through casing. It later flowed 100 bbls. in 24 hours while drilling around 4,430 feet. Magnolia Petroleum Co. No. 2 Burris "B," NW SE NE section 28-2-7, topped Bromide at 3,900 feet; McLish, 4,230 feet; sand, 4,265-70 feet, total depth. It flowed 213 bbls. of oil the first hour through casing and 129 bbls. the second hour through tubing. After acidizing with 5,000 gallons, it flowed 301 bbls. gross the first hour through casing, and 150 bbls. the second hour through casing. Same operator's No. 3 Burris "B," SE NE NE section 28-2-7, flowed 39.26 bbls. of oil in two hours through tubing and gas was estimated at 30,000,000 to 40,000,000 feet. Top of Bromide was 4,060 feet; total depth, 4,300 feet.

Ed H. Moore and others No. 8 McKoy, SE SW SW section 28-2-7, made potential of 2,836 bbls. of oil, gas gauging 1,051,000 feet. Wilcox sand was topped at 4,394 feet. At 4,402 feet, it flowed 153 bbls. of oil in one hour. At 4,407 feet, total depth, it flowed 355 bbls. of oil in two hours. Skelly Oil Co. No. 7 Park College, SW NW NE section 28-2-7, topped Bromide at 4,020 feet; total depth, 4,305 feet. It flowed 608 bbls. in seven hours through tubing. After treating with 8,000 gallons of acid, it flowed 400 bbls. of oil in two hours and made potential of 3,920 bbls. Gas measured 2,202,000 feet. Stahl Petroleum Co. No. 2 Dennis, NW NE NW section 28-2-7, topped Bromide at 4,105 feet; total depth, 4,285 feet. It flowed 84 bbls. of oil in two hours through tubing and was acidized. It then flowed 514 bbls. the first hour gross and 268 bbls. the second hour, net.

Ed H. Moore and others No. 1-B Wirick, SE SE SW section 29-2-7, flowed 1,163 bbls. of oil in two hours at 4,405 feet; 628 bbls. in one hour at 4,415 feet, and 723 bbls. in one hour at 4,425 feet. Gas increased from 4,000,000 to 5,100,000 feet. At 4,428 feet, total depth, it flowed 1,085 bbls. in one hour through casing and 493 bbls. in one-half hour. Top of Bromide was 3,830 feet; McLish 4,050 feet; Dense, 4,300 feet, and Wilcox sand, 4,380 feet. Carter Oil Co. No. 5 Richards, SW NW SE section 30-2-7, deepened from 4,180 feet to 4,401 feet, flowed 1,814 bbls. of oil in four hours. Same operator's No. 7 Richards, SW NE SE section 30-2-7, deepened from 4,182 feet to 4,405 feet, where salt water was encountered, was plugged back to 4,410 feet and flowed 443 bbls. of oil in six hours through tubing, cutting 5 per cent water.

In the Jesse area, Continental Oil Co. No. 1 McCarty, SE SE NW section 12-1-7, was pulling drill pipe after deepening from old total depth of 4,641 feet. At 4,693 feet, it flowed 2,160 bbls. in four hours while drilling. Later it flowed 1,524 bbls. in 1 hour and 30 minutes with drill pipe still in the hole.

Oklahoma County

British-American Oil Co. had the largest completion in the Capitol extension area at Oklahoma City at No. 4 Piersol, NE SE SE section 22-12-3w. It flowed 6,197 bbls. of oil in six and one-half hours and made potential of 27,949 bbls. Best pay and second Wilcox sand was topped at 6,346 feet; total depth, 6,442 feet. Gas measured 33,600,000 feet. Same operator's No. 1 Russell, SE NE SE section 22-12-3w, topped second Wilcox sand at 6,369 feet; total depth, 6,376 feet. It flowed 6,065 bbls. in six hours and made potential of 23,706 bbls. of oil, with 31,300,000 feet of gas. The company's No. 1 Piersol, SE SE SE section 22-12-3w, was deepened from 6,362 feet to 6,511 feet. It flowed 3,790 bbls. in six hours, giving it a potential rating of 15,036 bbls. Gas was estimated at 90,000,000 feet.

Barnsdall Oil Co. and others No. 3 Bracht, NE SW SW section 23-12-3w, had the best pay and Wilcox sand at 6,352 to 6,469 feet, total depth. It flowed 5,451 bbls. in six hours and made potential of 22,297 bbls. Gas gauged 32,000,000 feet.

In the Britton area, Sinclair Prairie Oil Co. and others No. 1 Stites, SE SE SW section 8-13-3w, flowed 90 bbls. of oil in 24 hours after reacidizing with 6,000 gallons, produced 11,000,000 feet of gas, and was completed at 6,630 feet, total depth. Top of Simpson was 6,527 feet. It flowed 30 bbls. of oil per day before acidizing the first time, and after acidizing it flowed 375 bbls. of oil gross and 95 bbls. net in 14 hours. Before acidizing the second time, it flowed 155 bbls. in 24 hours and produced 10,000,000 feet of gas.

New work in Oklahoma County: Barnsdall Oil Co. No. 1 Dawson, NE NE SW NE section 22-12-3w, was moving in material; same operator's No. 1 Fitzhugh, NW NW SE section 22-12-3w, location; company's No. 2 Fitzhugh, SE NW NW SE section 22-12-3w, location; company's No. 1 Lyons, SE SW NW NE section 22-12-3w, building rig; Empire Oil & Refining Co. No. 2 Levy, NW NW NW NE section 22-12-3w, location; Anderson-Prichard Oil Co. No. 1 Welch, C E half NW NW NE section 22-12-3w, digging cellar; Phillips Petroleum Co. and R. M. Murray No. 1 Murray, SE NE SW NE section 22-12-3w, cellar; Continental Oil Co. No. 8 Young, NW SE NW section 31-14-3w, cementing cellar; Sinclair Prairie Oil Co. No. 1 Kindblade, SE NE SW section 17-13-3w, cementing cellar.

British-American Oil Co. No. 1 Hayes-Hyland, SE NE SE section 22-12-3w, in the Capitol extension area at Oklahoma City, flowed 562.34 bbls. of oil the first hour and 920.79 bbls. the second hour of potential test and was shut in for storage. Second Wilcox sand was topped at 6,384 feet; total depth, 6,502 feet. Same operator's No. 1 Winders, SE SW SW section 23-12-3w, made potential of 9,825 bbls. oil per day and was to be deepened. Best pay and second Wilcox sand was topped at 6,336 feet; total depth, 6,339 feet.

In the Edmond area, Continental Oil Co. No. 6 Young, SW NE NW section 31-14-3w, topped first Wilcox sand at 6,540 feet; second sand at 6,625 feet; total depth, 6,710 feet. It was bailed in and flowed 502 bbls. of oil in three hours, gas gauging 5,000,000 feet. It was to be shot.

Seminole County

Carter Oil Co. No. 1 North, SW SW SE section 11-10-6, in the Keokuk area of Seminole County, topped Misener sand at 4,102 feet, Hunton lime at 4,114 feet, and was completed as a producer in these two horizons at 4,123 feet, total depth. It swabbed 255 bbls. in 20 hours before acidizing. After acid treatment, it flowed 542 bbls. of oil net through tubing in five hours. Carter Oil Co. and others No. 4 Pipkin C-28, C W half SE SW section 2-10-6, topped Misener sand at 4,144 feet; Hunton lime, 4,148 feet; total depth, 4,160 feet. It was acidized and flowed 60 bbls. of oil gross through tubing in two hours. Later it flowed 223 bbls. in 16½ hours through casing and tubing. Same operators' No. 2 Criswell C-28, C E half NW SE section 2-10-6, made potential of 464 bbls. of oil and was completed. Top of Misener sand was 4,142 feet; Hunton lime, 4,160 feet, total depth, 4,167 feet.

E. W. Jones No. 1 Shiffeet, NW NW NE section 34-8-8, in the Wewoka area, swabbed 500 bbls. of oil in 24 hours after a shot, and was completed at 4,187 feet, total depth, Wilcox sand was encountered at 4,173 feet. Rudco Oil Co. No. 3 Fleet, SW NE SE section 13-6-7, in the Sasakwa area, swabbed 100 bbls. of oil in 24 hours after two shots and was completed. Gilcrease sand, the producing horizon, was topped at 2,773 feet; total depth, 2,832 feet. M. B. Rudman No. 1-A Bates, SE SE NE section 13-6-7, topped Gilcrease sand at 2,766 feet and was bottomed at 2,820 feet. After a shot, it swabbed 112 bbls. of oil in 22 hours and was completed.

Magnolia Petroleum Co. No. 5 Reed, SW NE NW section 34-8-8, topped Wilcox sand at 4,195 feet, encountered water at 4,214 feet, total depth, and was dry and abandoned. Another Seminole County failure was the Wynona-Jarvis-Holm No. 1 Horton, NE SW NE section 18-7-8, a wildcat. It topped Simpson Dolomite at 4,203 feet; Wilcox sand, 4,245 feet; had slight showings of oil in cores, but a Schlumberger test indicated the presence of water, and it was dry and abandoned at 4,250 feet, total depth.

New work in Seminole County was as follows: Nathan Phillips No. 1 Island, SE cor. section 13-5-5, location; Sinclair Prairie Oil Co. and Papoose Oil Co. No. 1-A Mathis, SW SE NE section 12-5-7, moving in rig; Clyde Alexander and others No. 1-A Mitchell, NW NE NE section 3-6-4, building rig; Vierson-Roodhouse No. 1 Davis, NE SE NE section 10-6-6, building rig; Carter Oil Co. and others No. 6 Pipkin, C W half NE SW section 2-10-6, location; same operator's No. 1 Warrenburge, C W half NW SE section 11-10-6, location.

Osage County

Carter Oil Co. and others No. 7 Kennedy C-42, NE SW SE section 34-26-6, in the South Burbank area of Osage County, flowed 889 bbls. of oil and produced 750,000 feet of gas, completed. Bartlesville sand was topped at 2,800 feet; total depth, 2,870 feet. Same operators' No. 6 Kennedy C-42, NW NE SE section 34-26-6, topped Bartlesville sand at 2,801 feet; total depth 2,885 feet. It flowed 790 bbls. of oil in 24 hours and was completed. Gas gauged 690,000 feet.

Lewis Production Co. and Texas Co. No. 5 Claremore, SW NE SE section 17-24-7, flowed 171 bbls. of oil in 24 hours and was completed at 2,624 feet, total depth. Bartlesville sand was topped at 2,602 feet. Champlin Refining Co. No. 5 Osage, SE NE NE section 17-24-7, topped Bartlesville sand at 2,620 feet; total depth, 2,637 feet. It was shot with 60 quarts, swabbed 35 bbls. of oil in 24 hours and was completed. Peters Petroleum Co. and Sinclair Prairie Oil Co. No. 11 Osage, SW NW NE section 24-24-7, pumped 20 bbls. of oil and 16 bbls. of water in 24 hours and was completed. Sand was topped at 687 feet and the hole was bottomed at 740 feet.

Coralena Oil Co. No. 1-A Osage, NE SW SE section 6-24-8, had a hole full of water at 2,641 feet, total depth, and was dry and abandoned. Hominy sand was topped at 2,614 feet. Texas Co. No. 2 Osage, SW SW NW section 13-24-8, topped Bartlesville sand at 2,170 feet; Chat, 2,278 feet; Mississippi lime, 2,308 feet, and was dry and abandoned at 2,338 feet, total depth. Philtex Co. No. 45 Osage, SE SE SE SW section 15-25-12, old well bottomed at 1,925 feet, redrilled to 1,665 feet and when acid failed to make a producer, it was completed as a water disposal well. Ohio Osage Oil Co. completed No. 26 Osage, NW SW SW section 9-21-9, as a repressure well at 306 feet, total depth.

New work reported in Osage County was as follows: Sinclair Prairie Oil Co. No. 27 Osage, NW SE NW NE section 5-21-10, location; J. W. Field No. 2-A Osage, C W half E half SW section 12-21-11, location; E. O. Platter No. 5 Osage, NE SE NW section 30-22-9, rigging up to

deepen from 432 feet; Bay Oil Corp. and F. W. Files No. 5-A Osage, SE NW NW section 19-23-9, location; Lewis Production Co. and Continental Oil Co. No. 13 Osage, NW SW SW section 16-24-7, location; Carter Oil Co. and others No. 7 Manahan-Ducotey, SW NE NW section 3-25-6, cellar; same operators' No. 9 Presbery, C S half NE NE section 10-25-6, location; Texas Co. No. 14 Osage, C SE NW section 30-25-8, cellar; Carter Oil Co. and others No. 4 McKinley, NE NW SW section 35-26-6, location.

Ray Branstetter and others No. 2 Osage, SE NW SE SW section 28-22-11, in the Branstetter pool of Osage County, topped Hominy sand at 2,016 feet, drilled to 2,082 feet, total depth, and flowed by heads. Production was estimated at 250 bbls. a day. Location is west of Skiatook, in Tulsa County, of which town Mr. Branstetter is mayor. Continental Oil Co. No. 11 Osage, SE NE SE section 21-24-7, was shot with 100 quarts at 2,548-2,617 feet and swabbed and flowed 95 bbls. of oil in 24 hours. The crew was cleaning out after shot.

Skelly Oil Co. No. 1 Smith, SE SW NW section 26-26-6, which extended the South Burbank pool one-fourth mile north, flowed 2,401 bbls. of oil the first 24 hours and 2,128 bbls. the second 24 hours, flowing steady. Top of Bartlesville sand was 2,853 feet; total depth, 2,945 feet.

Offsetting the Skelly well on the south, Kewanee Oil & Gas Co. No. 6 Renald, NE NW SW section 26-26-6, produced 1,197 bbls. the first 24 hours, flowing by heads every 30 minutes. It topped Bartlesville sand at 2,850 feet; total depth, 2,897 feet.

These two strikes not only increase interest in the north side of South Burbank, but revive interest in the southeast sector of the old Burbank field, which probably will be given some new tests because of these strikes.

Logan County

The discovery well in the Seward area of southern Logan County finally has been completed. Sinclair Prairie Oil Co. and Slick-Urschel Oil Co. No. 1 Koatsch, SW SW SW section 23-15-3w, flowed at the rate of 65 bbls. of oil per day by heads and was completed at 6,204 feet, plugged back depth. Total depth was 6,343 feet. Simpson Dense was topped at 6,115 feet; first Wilcox sand, 6,218 feet; second Wilcox, 6,322 feet. Operators experienced considerable difficulty in making a producer of it before shutting it in for tanks in July, 1935. After opening it up on March 6, 1936, it flowed 85 bbls. of oil the first day, and then 65 bbls.

One new Logan County operation was reported. Blackwell Oil & Gas Co. No. 1 Davis, SE cor. section 18-18-4w, was a location for a deep test in the Lovell area.

Phillips Petroleum Co. No. 2 Pfeiffer, C N half NW NE section 4-19-2w, in the Logan County part of the Lucien pool, flowed 525 bbls. of oil in 24 hours and was shut in for potential. Top of first Wilcox sand was 4,953 feet; second Wilcox sand, 5,087 feet; total depth, 5,125 feet. At 5,114 feet it flowed 470 bbls. in 24 hours.

In the new West Lovell area, Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Eason Oil Co. No. 1 Gragg (Bird), SW SW NE section 20-18-4w, produced 961 bbls. of oil in 20 hours on initial test, with gas gauging 40,000,000 feet daily. It was bottomed at 6,145 feet. Blackwell Oil & Gas Co. was due to start two wells in this new district, where a spirited royalty play has started.

Garfield County

Herndon Drilling Co. and others No. 1 Branson Community, SW SW SE section 23-24-3w, wildcat in northeastern Garfield County, was dry and abandoned at 5,008 feet, total depth. Cores from 5,004 to 5,008 feet were salty at bottom. Top of Oread was 2,745 feet; Layton, 3,760 feet; Mississippi lime, 4,660 feet; Viola, 4,923 feet; Dense, 4,930 feet; Dolomite, 4,934 feet; first Wilcox sand, 4,943 feet; second Wilcox sand 4,994 feet.

Kay County

Shell Petroleum Corp. and Continental Oil Co. No. 2 Lawrence, SE SE NW section 5-28-1w, an old well in the Blackwell area of Kay County, was deepened from 2,382 feet to 2,783 feet, and swabbed and flowed 232 bbls. in 24 hours; completed.

Hughes County

A trio of Senora sand producers were completed in the Olympic pool of northwestern Hughes County. Mid-Continent Petroleum Corp. No. 1 Hampton, SW SW NE section 1-9-8, topped sand at 1,669 feet; total depth, 1,728 feet. It was shot with 60 quarts and flowed 570 bbls. of oil in 24 hours. Sinclair Prairie Oil Co. No. 5 Oliphant, NE SW SE section 1-9-8, flowed 288 bbls. in 24 hours after a shot. It topped sand at 1,707 feet; total depth 1,768 feet. Same operator's No. 7 Oliphant, SE NW SE section 1-9-8, topped sand at 1,691 feet and was bottomed at 1,740 feet. After a shot it flowed 570 bbls. in 24 hours.

New operations in Hughes County: George Manahan and others No. 2 Oliphant "E," NE SE NW section 1-9-8, cellar and pits; Carter Oil Co. No. 3 Hampton, SW NE NE section 1-9-8, location; Sinclair Prairie Oil Co. No. 9 Oliphant, NW NE SE section 1-9-8, location; Mid-Continent Petroleum Corp. No. 3 Hampton, NE NW NE section 1-9-8, spudding; same operator's No. 4 Hampton, SW NW NE section 1-9-8, rigging up rotary.

W. P. Canavan No. 1 Meadors, SE NE SE section 5-8-10, wildcat southwest of Wetumka and north of Yeager, flowed 20 bbls. of oil in 24 hours. Gas gauged 1,500,000 feet. Cromwell sand was topped at 3,058 feet and at 3,196 feet, total depth, it encountered water and was plugged back to 3,168 feet.

In the Olympic area, Carter Oil Co. No. 1 Hampton, NE cor. section 1-9-8, flowed 165 bbls. of oil in 15 hours after a shot, and gas was estimated at 10,000,000 feet. Senora sand was topped at 1,700 feet; total depth, 1,749 feet.

Lincoln County

Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Slick-Urschel Oil Co. No. 4 Cragg, NW cor. section 12-14-3, in the Chandler area, swabbed and flowed 99 bbls. of oil in 24 hours before 10-quart shot and 126 bbls. in 24 hours after shot. It was bottomed at 4,245 feet.

Pottawatomie County

The only Pottawatomie County completion was in the Gray area. Magnolia Petroleum Co. No. 8 School Land, NW cor. section 36-6-4, drilled to 2,976 feet, total depth, flowed 50 bbls. of oil in 24 hours and was completed. Sand was topped at 2,919 feet.

Mid-Texas Petroleum Co. No. 1 Brandenburg, SE SE NW section 21-7-4, was the only new operation reported in Pottawatomie County. It was deepened from 3,985 feet to 4,184 feet and was preparing to acidize. Viola lime was topped at 4,064 feet.

Pittsburg County

Mid-Western Oil & Gas Co. No. 4 Trekoll, NW SW NW section 14-7-18, in the Quinton gas area of Pittsburg County, topped Hartshorne series at 2,084 feet; drilled to 2,430 feet, had a fishing job and plugged back to 2,262 feet. It was shot, produced 4,000,000 feet of gas and was completed.

Okfuskee County

Snyder Drilling Co. No. 6 Wind, C E half SW NE section 35-11-9, in the Okemah area of Okfuskee County, pumped 15 bbls. of oil in 24 hours and was completed after a 23-quart shot. It had sand at 1,448-71 feet, total depth.

The only new activity reported in the county was the Champlin Refining Co. No. 1 Thompson, SW SW NW section 7-13-8, standardizing. It is to be a 4,000-foot test.

Creek County

L. B. Jackson No. 1-A Carman, SW cor. section 36-18-8, had Jones sand at 1,551 to 1,580 feet, total depth, swabbed 20 bbls. of oil in 24 hours after a shot and was completed. Wright estate No. 5-A fee, SW NE SW section 19-17-11, pumped 20 bbls. of oil in 24 hours and was completed at 2,422 feet, total depth. Sand was topped at 2,379 feet. Killum and others No. 3 Vance, NE SW SW section 6-18-7, had Bartlesville sand at 2,526-2,575 feet; swabbed 65 bbls. in 24 hours after a shot and was completed. F. O. Akin No. 13 Wilson, C NW SE section 34-18-8, pumped 25 bbls. of oil in 24 hours after a shot and was completed. It topped Layton sand at 1,264 feet; total depth, 1,315 feet.

New Creek County tests: Mauch No. 1 Culberson, NE cor. section 19-17-8, location; Sinclair Prairie Oil Co. No. 30 Litchfield, NE SE NE section 21-17-7, rigging up to deepen from 2,778 feet; same operator's No. 21 Jones, CNL S half NW section 3-17-7, rigging up to deepen from 2,493 feet; W. C. McBride No. 1 Kirk, SE NE SE section 21-15-7, rig; Tibbins estate No. 3 Yarbough, SE SE SW section 7-14-9, drilling at 730 feet.

Muskogee County

Beam No. 1 Muskogee townsite, SE SE SW NE section 34-15-18, pumped 5 bbls. of oil in 24 hours from sand at 975 to 990 feet and was completed. Lippschitz No. 1 Evans, SW SW SE section 8-14-18, was dry and abandoned at 1,645 feet, total depth.

Tulsa County

The only new operation reported in Tulsa County was an old well deepening. Anthony No. 4 fee, SW SW NW section 3-16-12, old total depth 1,700 feet, was drilling below 1,835 feet.

Okmulgee County

Klingensmith No. 14 Farr, SW NE NW section 35-16-11, in Okmulgee County, swabbed 45 bbls. of oil in 24 hours after a shot and was completed. Top of Glenn sand was 1,815 feet; total depth, 1,891 feet. R. H. Ford No. 2 Noble, NW SE NE section 14-13-12, old well deepened from 1,363 feet to 1,750 feet, was abandoned. Rebold & Bassett No. 1 Fife, SE SE NE section 15-14-12, had Wilcox sand at 2,744 to 2,756 feet and was abandoned. Lease Investment Co. No. 1 Bell, NW SW SW section 27-15-11, pumped 15 bbls. of oil in 24 hours after deepening from 2,083 feet to 2,882 feet and shooting with 30 quarts; completed. W. B. Pine No. 2 Hawkins, NE SE SW section 4-15-14, had sand at 1,602 to 1,610 feet, produced 6,250,000 feet of gas and was completed. Moore No. 1-A Rowe, NE cor. section 10-15-14, had sand at 976 to 1,016 feet and was abandoned. Delaney No. 5-A Larney, CWL NW NW section 28-15-14, was abandoned in Glenn sand at 1,668 to 1,701 feet.

The following new work in Okmulgee County was reported: Texas Co. No. 8 Grayson, SE NW SE section 35-16-11, location; Hogue No. 1-A Bisby, CSL NE NE section 22-16-14, was drilling at 100 feet; Klingensmith No. 14-A Farr, SW NE NW section 35-16-11, location; Misener No. 1-A well, SW SE NE section 28-15-14, location; Lease Investment Co. No. 1 Fewell, SW SW SE section 33-15-11, drilling below 50 feet; Moore No. 1 Tiger, NE SW SW section 2-12-12, set 12½-inch casing at 104 feet and was waiting.

Carter County

Carter Oil Co. and others No. 3 Bridenthal, SW cor. section 3-1s-3w, in the Tussy area of Carter County, pumped 55 bbls. of oil the first 24 hours and 50 bbls. the next 24 hours and was completed. It had a series of sands from 2,595 feet to 2,793 feet, total depth. In the Healdton area, Shell Petroleum Corp. No. 65 Wirt Franklin, SE NW NE section 8-4s-3w, had sand at 1,019 to 1,028 feet, total depth, pumped 33 bbls. of oil in 24 hours and was completed. Skelly Oil Co. No. 3 Westheimer, SE SE NW section 8-2s-2w, in the Wildcat Jim area, topped Springer shale at 3,030 feet, cored to 3,077 feet, total depth, and was dry and abandoned. C. R. Smith No. 1 Lina Ned (fee), SW SE NE section 27-2s-3w, in the Fox area, was abandoned at 4,465 feet. It was an old well deepened from 2,215 feet.

New activity in Carter County follows: Gulf Oil Corp. No. 8 Johnson, C SW SW section 28-2s-3w, cellar and pits; Turman Oil Co. No. 12 Rexroat, "E," SW NE NE NW section 10-4s-2w, set surface pipe at 41 feet; Shell Petroleum Corp. No. 63 Wirt Franklin, NW NE SW NE section 8-4s-3w, drilling below 120 feet.

Marshall County

Levelle Coal Co. No. 4 Brent, NE NW SE section 1-8s-5, was the only Marshall County completion. It had sand at 542-555 feet, total depth, and pumped 15 bbls. of oil in 24 hours.

Two new tests were reported in Marshall County, as follows: Levelle Coal Co. No. 5 Brent, NE NW NW SE section 1-8s-5, location; G. M. Felts No. 5 fee, NE NE SW NW section 6-8s-6, drilling below 50 feet.

Southwestern Oklahoma

All four southwestern Oklahoma completions were failures. Oscar Jones No. 1-A Scheets, NE NE SW section 26-3-10w, wildcat in Comanche County, rigged up and shut down, only to move tools out later and abandon location. J. E. Thweatt No. 1 Fahy, SE SW SW section 21-2-10w, Comanche County, missed the sands and was abandoned at 890 feet, total depth. Skelly Oil Co. No. 29 Selby, NE SE SW section 26-1s-5w, in Stephens County, was dry and abandoned in shale at 942 feet, total depth. J. C. Shaffer and others No. 1

(Continued on Page 84)

Southwest Texas District

NEW POOL IN SAN PATRICIO; INCREASE IN FIELD ACTIVITY

By GEORGE WEBER

SAN ANTONIO, Tex., Apr. 6.—The finding of new production in San Patricio County, a decided increase in wildcatting and proven field activity, and the search for deeper production in some fields led the developments of drilling in Southwest Texas during the past week. Extensions to the Saxet and Pearsall fields seemed imminent. Despite several wildcat failures during the week, new locations exceeded the number of abandonments. Wildcatting is widespread throughout this section of the state with Duval County, the Lower Rio Grande Valley district, McMullen and Live Oak Counties and the Lower Coastal region of Nueces and San Patricio Counties sharing in the greatest development.

Opening of new production in San Patricio County seemed practically a certainty late in the week as Benedum & Trees Oil Co. No. 2 Welder, located in the southeast corner of section 19, Welder ranch, was being worked. The test made 200 feet of oil and 100 feet of mud a week ago when a drill stem test was made at 5,696-5,710 feet. Due to the testing tool slipping, a four-minute test only was made. Casing was set and drilled this week. On Saturday the well was being brought in when the flow stopped. It is believed that the screen or liner may be plugged, and operators are going back into the hole. The test will be deepened if necessary.

Located about halfway between the Plymouth and Sinton fields, the wildcat was drilled in the vicinity of several dry holes, most of which were not carried to the depth at which it found production. Acreage on this section of the Welder ranch is held predominantly by the Plymouth Oil Co. and the Heep Oil Corp. The Plymouth field, east of the new discovery, producer from four general horizons at 5,500 feet, 5,600 feet and 5,900 feet. This field is one of the most productive in Southwest Texas.

One completion was made in the Plymouth field during the week, being Magnolia Petroleum Co. No. 6 Corpus Christi Bank, brought in from the deepest or Magnolia sand flowing 58 bbls. in seven hours. The Taft field developments consisted of Humble Oil & Refining Co.'s operations on the No. 1 Godwin. The test was previously abandoned dry at 6,352 feet, but after finding production in a 4,000-foot sand, in an offset well, the company is reworking it. A drill stem test at 3,998 feet showed 3,500 feet of oil and 150 feet of mud in 24 minutes. Casing was set and the well came in late in the week making from 75 to 90 per cent salt water. It will be plugged back again to complete.

The volume of drilling in the Saxet Heights or Corpus Christi field in Nueces County increased during the week. The oil sand in this field is comparatively thin, and many operators are encountering trouble with salt water and high gas-oil ratios. Six completions were made in the week, bringing the total number of producers to about 50. Two tests in the new field are coring below the present producing horizon in search of deeper pay. Culton and Republic Natural Gas Co. No. 1-C Baldwin is coring below 6,160 feet. The J. P. Nash No. 1 Hatch encountered a show of gas and an odor of oil in sand at 5,173-77 feet but was coring ahead at the latest report. Due to the multiplicity of sands in that section, chances for deeper production seem favorable.

Wildcatting in these two counties is very active, with an even dozen tests drilling or getting under way. One, Allen & McCormick No. 1 McBurnett was abandoned at a total depth of 5,048 feet.

Laredo District

Holding its place as most active district in Southwest Texas, the Laredo district gained many new producers. Drilling in the established fields of Loma Novia and Government Wells has become of little importance save in the volume of activity. Loma Novia gained 15 new producers and the Seven Sisters field, located to the north of Loma Novia, was greater by 11 completions. Of these, all but two were brought in producing from the Government Wells sand. The exceptions included Buchanan & Blanco Oil Co. No. 11 Welder, which was drilled as twin to the No. 5 Welder, Government Wells producer. The No. 11 well is bottomed in the Chernosky sand at 2,211 feet. The other Chernosky producer was Westheimer & Daube No. 6 Campos, which bounds production on the east at that point.

A deep test being drilled in the Seven Sisters field is attracting the attention of many interested operators. It is the Shell Petroleum Corp. No. 2-B Welder in Survey 385, coring below 3,650 feet.

Prospects in the Hagist area near the Eagle Hill field looked discouraging as the second test of the two recent drilling operations there was abandoned at 2,310 feet. The test was Marzo Oil Co. No. 2 Hagist, an east offset to the No. 1 Hagist, discovery well of the small field.

In the Hoffman area, one well was being completed as a gasser in the Government Wells sand, and several other tests were set on the sand. The coming week will bring early developments in this field. A northwest outpost test of the field, Hamil & Smith No. 1 Bishop Cattle Co. was abandoned dry at 3,110 feet.

Wildcats are receiving the bulk of attention in the Lower Rio Grande Valley. Hidalgo County leads in the number of wildcats with five scheduled tests, two of which are not yet under way. The most important test now drilling in the entire valley is Shell Petroleum Co. No. 1 Yturria Land & Livestock Co. in the salt lake region of Willacy County. The test was drilling below 2,400 feet at latest reports. On the Valley fields, Samfordyce leads in activity, with five wells on the sand for completion early in the coming week.

The possibility of completion of additional large producers in the Pearsall field of Frio County is again attracting attention in that direction. Of the six active rigs in the field, three are on the Chalk. One of these, Amerada Petroleum Corp. No. 1 Correy & MacWilliams in Tract 17 was shot late in the week and is expected to make a big well.

Along the Fault Line

The activity along the Fault Line Zone of Southwest Texas is again reviving. Although the success in the Pearsall field has a bearing on the increased play in this area, several of the tests have been planned for a considerable time. In Savalla County, to the west of Frio County, the Leona Oil Co. and Witherspoon Oil Co. No. 1 George West is drilling below 3,500 feet and W. L. Bridges No. 1 Price and Flowers has surface casing set at 360 feet. Bounding Frio County on the south, LaSalle is also coming in for a share in the wildcatting. Two tests are under way at the present time and more are scheduled to follow.

A definite setback to this area and a disappointment to many interested operators throughout Texas was the failure of the Walter Blumenthal No. 1 Crane test in Burleson County. The wildcat is bottomed at 6,328 feet and tested 180 feet of mud and 120 feet of salt water on a 14-minute drill stem test.

Activity in the Bee County district has centered around the Dirks field and the Pettus area. In the latter, several rigs are drilling in North Pettus, Gillette, Ray and Pettus. The 3,700-foot sand in the Gillette field failed to give production in Magnolia Petroleum Co. No. 1 Porter, which was plugged at 4,660 feet, total depth.

Details on completions and drilling in Southwest Texas will be found in the drilling report which begins on page 77.

BREATHING SPELL IN EAST TEXAS FIELD

Left to right: Hal Fessler, East Texas manager of Black, Sivalls & Bryson, Inc., Kilgore, Tex.; Charles Crawley, safety engineer for Employers Casualty Co., Tyler, and Jim Powell, chief mechanic for Black, Sivalls & Bryson, Inc.

Shell Dealers

TORONTO, Ontario, Apr. 4.—More than 200 Shell Oil Co. of Canada dealers and salesmen from the Toronto, Newmarket and Barrie areas attended a sales conference here recently. President F. M. Fowlie outlined sales plans and R. O. Watson, recently appointed manager of the Toronto division, was introduced. J. J. O'Toole was chairman.

Fittstown Plant

Effective April 1, American Iron & Machine Works Co. purchased and took over a plant at Fittstown, Oklahoma, formerly owned and operated by Mid-Co Tool & Supply Co. The new owners are enlarging the buildings and installing additional equipment. They are now giving machine shop service 24 hours a day.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 11 Capitan, Santa Barbara Co.	32- 4-30	2,820	sd. sh. drlg.
Shell Oil Co., No. 12 Capitan, Santa Barbara Co.	32- 4-30	2,084	sd. sh. drlg.
Honolulu Oil Corp., No. 9 Elwood, Santa Barbara Co.	tideland	6,628	O.S. drlg.
Barnsdall-Rio Grande, No. 9-B Elwood, Santa Barbara	tideland	3,594	sd. sh. drlg.
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	8,448	testing
Pacific Western Oil Co., No. 4 Elwood, Santa Barbara	tideland	3,608	redrlg. 3,475
Signal Oil Co., No. 7 Elwood, Santa Barbara Co.	tideland	3,673	hd. sh. drlg.
York Oil Co., No. 3 Lompoc, Santa Barbara Co.	33- 8-34	....	bldg. rig
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	27- 9-34	....	bldg. rig
Union Oil Co., No. 1 Santa Maria, Santa Barbara Co.	24-10-34	2,576	flow 3,750 b.d
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	4,060	cleaning out
Santa Barbara Oil, No. 1 Carpinteria, Santa Barbara	29- 4-25	2,290	P.B. 1,950
Carnero & Dietzman, No. 1 Carpinteria, Santa Barbara	8- 4-25	399	sd. sh. drlg.
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara Co.	tideland	5,510	cleaning out
Union Oil Co., No. 1 Sudden, Santa Barbara Co.	10- 5-35	1,562	sd. sh. drlg.
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 3-20	2,800	O.S. drlg.
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	5,955	deepening
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	3,298	sd. sh. drlg.
Bankline Oil Co., No. 1 Sespe, Ventura Co.	36- 5-20	2,291	rd. sh. drlg.
Ivers, H. A., No. 12 Sespe, Ventura Co.	1- 4-20	1,770	hd. sd. drlg.
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co.	32- 4-19	1,275	sidetracking
El Rancho Oil Co., No. 1 Shiells Canyon, Ventura Co.	9- 3-19	4,041	swabbing
Bestco Pet. Co., No. 1 Shiells Canyon, Ventura Co.	2- 3-19	418	cmtd. 331
Bankline Oil Co., No. 1 Shiells Canyon, Ventura Co.	3- 3-19	4,010	salt water
Petroleum Securities, No. 1 Shiells Canyon, Ventura	3- 3-19	561	sd. sh. drlg.
The Texas Co., No. 129 Shiells Canyon, Ventura Co.	4- 3-19	4,461	sd. sh. drlg.
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,531	sd. sh. drlg.
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co.	4- 4-18	699	cmtd. 697
Johnson, R. P., No. 1 Temescal, Ventura Co.	21- 4-18	631	sd. sh. drlg.
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-23	4,655	sd. sh. drlg.
General Pet. Corp., No. 4 Rincon, Ventura Co.	tideland	3,198	dry; abd.
Rincon Oil Co., No. 3 Rincon, Ventura Co.	tideland	952	sd. sh. drlg.
Continental Oil Co., No. 5 San Miguelito, Ventura Co.	24- 3-24	....	rigged up
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,314	P.B. 5,860
Cumberland Oil Co., No. 1 Devil's Den, Kern Co.	17-26-18	4,700	sd. sh. drlg.
Belmac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	4,797	fish. D.P.
Calcrude Pet. Co., No. 1 McKittrick, Kern Co.	34-30-22	....	rigging up
Franco-Western Oil Co., No. 12 McKittrick, Kern Co.	8-30-22	2,265	O.S. drlg.
Milburn, J. H., No. 1 McKittrick, Kern Co.	35-29-21	941	sd. sh. drlg.
Standard Oil Co., No. 4 North Belridge, Kern Co.	36-27-20	5,197	br. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	36-27-20	5,383	cmtd. 5,351
Belridge Oil Co., No. 6-1 North Belridge, Kern Co.	1-28-28	7,795	hd. sh. drlg.
Belridge Oil Co., No. 17-35 North Belridge, Kern Co.	35-27-20	4,900	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,492	P.B. 9,340
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	3,494	sd. sh. drlg.
Continental Oil Co., No. 7 North Belridge, Kern Co.	36-27-20	6,297	sd. sh. drlg.
Alford, J. W., No. 1 Delano, Kern Co.	14-25-27	2,440	cleaning out
C. C. M. Oil Co., No. 15 Kern Front, Kern Co.	23-28-27	2,180	cleaning out
Republic Pet. Co., No. 8 Kern Front, Kern Co.	11-28-27	1,972	sd. sh. drlg.
Republic Pet. Co., No. 9 Kern Front, Kern Co.	24-28-27	1,751	sd. sh. drlg.
L. & H. Prop., Inc., No. 1 Kern Front, Kern Co.	13-28-27	....	bldg. rig
General Pet. Corp., No. 5 Kern Front, Kern Co.	14-28-27	2,060	O.S. drlg.
Kern River Oilfields, No. 7 Kern Front, Kern Co.	25-28-27	....	rigging up
Webber, T. A., No. 1 Kern Front, Kern Co.	16-28-27	1,120	sd. sh. drlg.
Associated Oil Co., No. 6 Kern Front, Kern Co.	4-28-27	2,360	sd. sh. drlg.
Standard Oil Co., No. 11 Kern Front, Kern Co.	5-28-27	2,710	rig to pump
Standard Oil Co., No. 12 Kern Front, Kern Co.	5-28-27	....	bldg. rig
Standard Oil Co., No. 13 Kern Front, Kern Co.	24-28-27	1,161	sd. sh. drlg.
The Texas Co., No. 14 Kern Front, Kern Co.	23-28-27	2,100	pump. 281 b.d.
The Texas Co., No. 15 Kern Front, Kern Co.	23-28-27	....	rigging up
Ausbrit Oil Co., No. 1 Premier, Kern Co.	20-27-27	2,139	cleaning out
Santa Clara Oil Co., No. 1 Mount Poso, Kern Co.	7-26-28	1,660	sd. sh. drlg.
General Petroleum, No. 17 Mount Poso, Kern Co.	16-27-28	1,813	pump. 335 b.d.
Vanguard Oil Co., No. 4 Mount Poso, Kern Co.	33-27-28	1,520	sd. sh. drlg.
Cal-Coast-Apex Oil Co., No. 1 Mount Poso, Kern Co.	6-26-27	....	rigged up
Santa Anita Oil Co., No. 1 Mount Poso, Kern Co.	11-27-27	....	rigging up
Union Oil Co., No. 1 Poso Outpost, Kern Co.	34-26-26	....	bldg. rig
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	3,295	redrlg. 1,620
Mayo, Luther, No. 1 Fruitvale, Kern Co.	21-29-27	4,102	redrlg. 4,099
Magnet Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	3,430	sd. sh. drlg.
H. L. J. Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	....	rigging up
Western Gulf Oil Co., No. 22 Fruitvale, Kern Co.	22-29-27	1,717	cmtd. 510
Western Gulf Oil Co., No. 23 Fruitvale, Kern Co.	27-29-27	3,445	O.S. cmtd.
Western Gulf Oil Co., No. 24 Fruitvale, Kern Co.	22-29-27	....	bldg. rig
Mohawk Oil Co., No. 10 Fruitvale, Kern Co.	23-29-27	3,292	sd. sh. drlg.
North American, No. 1 Mountain View, Kern Co.	5-31-29	6,430	will P.B.
Hogan Pet. Co., No. 10 Mountain View, Kern Co.	29-30-29	6,049	flow. 270 b.d.
Hogan Pet. Co., No. 11 Mountain View, Kern Co.	32-30-29	5,891	sd. sh. drlg.
Hogan Pet. Co., No. 12 Mountain View, Kern Co.	32-30-29	3,511	sd. sh. drlg.
Hogan Pet. Co., No. 13 Mountain View, Kern Co.	32-30-29	....	rigging up
Buffalo Oil Co., No. 2 Mountain View, Kern Co.	19-30-29	761	sd. sh. drlg.
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	25-30-28	6,048	C.P. 5,763
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	6,035	fish. D.P.
Mohawk Oil Co., No. 18 Mountain View, Kern Co.	30-30-29	4,896	sd. sh. drlg.
Ohio Oil Co., No. 3 Mountain View, Kern Co.	33-30-29	5,159	redrlg. 4,971
Allied Pet. Corp., No. 1 Mountain View, Kern Co.	19-30-29	4,960	sd. sh. drlg.
Treasure Oil Co., No. 1 Mountain View, Kern Co.	12-30-28	....	rigged up
Shell Oil Co., No. 7 Mountain View, Kern Co.	32-30-29	5,926	flow. 240 b.d.
Shell Oil Co., No. 8 Mountain View, Kern Co.	32-30-29	5,762	sd. sh. drlg.
Shell Oil Co., No. 9 Mountain View, Kern Co.	32-30-29	4,573	sd. sh. drlg.
Shell Oil Co., No. 10 Mountain View, Kern Co.	32-30-29	4,632	sd. sh. drlg.
Shell Oil Co., No. 11 Mountain View, Kern Co.	32-30-29	....	rigged up
Standard Oil Co., No. 23 Mountain View, Kern Co.	13-30-28	6,054	sd. sh. drlg.
Standard Oil Co., No. 24 Mountain View, Kern Co.	13-30-28	5,285	P.B. 5,188
Standard Oil Co., No. 25 Mountain View, Kern Co.	13-30-28	5,298	flow. 621 b.d.
Standard Oil Co., No. 26 Mountain View, Kern Co.	13-30-28	....	bldg. rig
Jergins Trust, No. 5 Mountain View, Kern Co.	24-30-28	5,960	pump. 61 b.d.
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	3,952	sd. sh. drlg.
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	7,440	sd. sh. drlg.
Heim & Fruitt, No. 1 Round Mountain, Kern Co.	17-28-29	1,876	hd. sd. drlg.
Round Mountain Oil Co., No. 2 Round Mountain, Kern	19-28-29	961	sd. sh. drlg.
California Western Oil, No. 9 Round Mountain, Kern	7-28-29	1,587	pump. 219 b.d.
Honolulu Oil Corp., No. 13 Round Mountain, Kern Co.	18-28-29	1,948	pump. 238 b.d.
Honolulu Oil Corp., No. 14 Round Mountain, Kern Co.	20-28-29	1,950	completing
Bauer Oil Co., No. 1 Edison, Kern Co.	21-30-29	3,194	cleaning out
Shell Oil Co., No. 1 Edison, Kern Co.	21-30-29	4,981	resume work
M. & L. Oil Co., No. 1 Edison, Kern Co.	23-30-29	2,048	cleaning out
Jergins Trust, No. 21 Edison, Kern Co.	14-30-29	1,812	cmtd.
Jergins Trust, No. 22 Edison, Kern Co.	22-30-29	3,104	P.B. 2,823
Jergins Trust, No. 23 Edison, Kern Co.	23-30-29	1,831	sd. sh. drlg.
Corbett, R. E., No. 1 Edison, Kern Co.	23-30-29	2,087	cmtd. 1,890
Whittier-Santa Fe Oil Co., No. 1 Edison, Kern Co.	21-30-29	3,294	gr. sd. drlg.
Monterey Expl. Co., No. 5 Edison, Kern Co.	14-30-29	2,699	C.P. 2,190
The Texas Co., No. 1 Edison, Kern Co.	23-30-29	....	rigged up
General Pet., No. 14 Edison, Kern Co.	24-30-29	1,455	recmtd. 1,370
General Pet. Corp., No. 1 Elk Hills, Kern Co.	5-30-24	6,149	cmtd. 6,050
American Pacific Oil Co., No. 1 San Emidio, Kern Co.	18-10-23	....	rigging up
Gibson Oil Co., No. 3 Maricopa, Kern Co.	6-11-23	....	bldg. rig
General Pet. Corp., No. 1 Maricopa, Kern Co.	6-11-23	1,797	sd. sh. drlg.
Standard Oil Co., No. 24 Midway-Sunset, Kern Co.	36-12-24	2,201	deepening
Standard Oil Co., No. 25 Midway-Sunset, Kern Co.	36-12-24	2,106	deepening
Standard Oil Co., No. 65 Midway-Sunset, Kern Co.	36-12-24	1,314	P.B. 1,000
Standard Oil Co., No. 219 Midway-Sunset, Kern Co.	33-32-24	....	bldg. rig
Alford Oil Co., No. 4 Maricopa, Kern Co.	25-12-24	2,650	O.S. drlg.
Cal.-Com'l Oil Co., No. 9 Midway-Sunset, Kern Co.	26-32-23	1,697	cleaning out
McAdams, Ed., No. 1 Midway-Sunset, Kern Co.	23-32-23	....	rigging up
Obispo Oil Co., No. 12 Midway-Sunset, Kern Co.	32-12-23	....	bldg. rig
Pet. Drlg. & Expl. Co., No. 2 Maricopa, Kern Co.	25-12-24	2,396	cleaning out
Jerman, R. W., No. 1 Midway-Sunset, Kern Co.	31-12-23	2,405	O.S. drlg.
Evans, H. B., No. 12 Midway, Kern Co.	35-32-23	2,350	br. sh. drlg.
Ohio Oil Co., No. 6 Buena Vista Lake, Kern Co.	32-31-26	2,800	cmtd. 1,230
Superior Oil Co., No. 1 Buena Vista Lake, Kern Co.	6-32-25	3,896	sd. sh. drlg.
Silver Gate Oil & Gas Co., No. 1 Tejon, Kern Co.	7-10-19	3,005	redrlg. 2,625
Reserve Oil Co., No. 1 Tejon, Kern Co.	33-11-19	6,032	cleaning out
Seaboard Oil Co., No. 4 Huron, Fresno Co.	10-16-13	1,970	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	....	rigging up
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	796	sd. sh. drlg.
Standard Oil Co., No. 1 South Coalinga, Fresno Co.	36-21-14	....	bldg. rig
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P.B. 10,729
K. N. D. A., No. 2 Kettleman North, Fresno Co.	20-21-17	5,591	sd. sh. drlg.
K. N. D. A., No. 38 Kettleman North, Fresno Co.	18-21-17	....	rigging up
K. N. D. A., No. 43 Kettleman North, Fresno Co.	30-21-17	....	bldg. rig
K. N. D. A., No. 54 Kettleman North, Fresno Co.	24-21-16	5,818	flow. 1,015 b.d.
K. N. D. A., No. 74 Kettleman North, Fresno Co.	30-21-17	....	rigged up
K. N. D. A., No. 36 Kettleman North, Kings Co.	36-22-18	9,733	cleaning out
K. N. D. A., No. 54 Kettleman North, Kings Co.	26-22-18	8,400	sd. sh. drlg.
Standard Oil Co., No. 25 Kettleman North, Fresno Co.	19-21-17	....	bldg. rig
Standard Oil Co., No. 56 Kettleman North, Fresno Co.	19-21-17	....	bldg. rig
Standard Oil Co., No. 65 Kettleman North, Fresno Co.	19-21-17	....	rigging up
Standard Oil Co., No. 72 Kettleman North, Fresno Co.	19-21-17	631	sd. sh. drlg.
Standard Oil Co., No. 2 Kettleman Middle, Kings Co.	29-23-19	8,252	hd. sd. drlg.
Petroleum Securities, No. 2 Kettleman Middle, Kings	30-23-19	9,332	repair csg.
Associated Oil Co., No. 1 Avenal, Kings Co.	35-23-17	....	bldg. rig
Royalty Service Corp., No. 1 Pyramid Hills, Kings Co.	16-24-18	4,064	sd. sh. drlg.
Barnsdall Oil Co., No. 1 Carissa Plains, Kings Co.	24-28-17	....	bldg. rig
Pismo Pet. Corp., No. 1 Pismo, San Luis Obispo Co.	5-32-13	974	sd. sh. drlg.
Emerich Oil Co., No. 1 Cholame, San Luis Obispo Co.	22-32-22	1,906	bailed dry
United Oil Co., No. 1 Cholame, San Luis Obispo Co.	2-32-21	371	sd. drlg.
Commonwealth Consd. Gas., No. 2 Tulare Lake, Kings	21-22-20	3,495	sd. sh. drlg.
Union-Hancock, No. 1 Tulare Lake, Kings Co.	28-22-20	4,354	sd. sh. drlg.
Amerada Pet., No. 7 Tracy, San Joaquin Co.	15- 2-5	5,598	sd. sh. drlg.
Standard Oil Co., No. 1 McDonald Island, San Joaquin	25- 2-4	2,592	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back (or plugged) back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.S.C., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Northern Counties Pet., No. 1 Tehama, Tehama Co. ..	25-24-3	7,650	cleaning out
Shell Oil Co., No. 1 Branch, Monterey Co.	24-24-10	7,597	sd. sh. drlg.
The Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	3,754	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILCATS

Company, well and location—	S.T.R.	Depth	Status
Republic Pet. Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	7,192	sd. sh. drlg.
Marvin, J. L., No. 1 El Segundo, Los Angeles Co. ...	7- 3-14	6,900	sd. sh. drlg.
Cone Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	5,750	form. test
Shell Oil Co., No. 1 Moneta, Los Angeles Co.	33- 3-14	6,795	sd. sh. drlg.
Big Bend Oil Co., No. 1 Torrance, Los Angeles Co. ..	31- 3-14	....	bldg. rig
Sioux Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	bldg. rig
White Five Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,885	salt water
White Five Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	....	material
Linderman, G. K., No. 1 Torrance, Los Angeles Co. ..	31- 3-14	....	rigging up
Sterling Oil Co., No. 1 Torrance, Los Angeles Co. ...	31- 3-14	4,300	P.B. 3,877
Dumas-Lewis Oil Co., No. 2 Torrance, Los Angeles Co.	6- 4-14	....	bldg. rig
R. & N. Oil Co., No. 1 Torrance, Los Angeles Co. ...	18- 4-14	2,872	sd. sh. drlg.
Mullins Oil Corp., No. 1 Torrance, Los Angeles Co. ..	31- 3-14	....	bldg. rig
Redondo Oil Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	rigging up
Tu-Jax Oil Co., No. 1 Torrance, Los Angeles Co. ...	31- 3-14	....	bldg. rig
Bennek Oil & Gas Co., No. 1 Torrance, Los Angeles Co.	5- 4-14	2,860	sd. sh. drlg.
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co. ...	8- 4-14	4,691	sd. sh. drlg.
West American Oil Co., No. 1 Domingues, Los Angeles	3- 4-13	7,475	sd. sh. drlg.
Union Oil Co., No. 8 Domingues Carson, Los Angeles	33- 3-13	711	sd. sh. drlg.
Shell Oil Co., No. 1 Long Beach, Los Angeles Co. ...	13- 4-13	6,035	redrlg. 5,092
Barnsdall Oil Co., No. 15 Rosecrans, Los Angeles Co.	18- 3-13	4,955	redrlg. 4,140
Mars Oil Co., No. 1 Athens, Los Angeles Co.	7- 3-13	4,850	cmtd. 3,900
Continental Oil Co., No. 35 Seal Beach, Los Angeles	3- 5-12	6,500	sd. sh. drlg.
Standard Oil Co., No. 27 Seal Beach, Los Angeles Co.	3- 5-12	3,520	sd. sh. drlg.
Engler & Long, No. 1 Artesia, Los Angeles Co.	25- 3-12	6,888	will P.B.
Clayton, C. L., No. 1 Long Beach, Los Angeles Co. ..	31- 3-12	6,765	P.B. 4,750
Standard Oil Co., No. 17 Inglewood Deep, Los Angeles	8- 3-14	2,500	sd. sh. drlg.
Ohio Oil Co., No. 18 Del Rey, Los Angeles Co.	22- 3-15	6,340	O.S. drlg.
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 3-15	6,540	sd. sh. drlg.
Royalty Service Corp., No. 6 Del Rey, Los Angeles Co.	22- 3-15	6,850	sd. sh. drlg.
Herndon Dev. Co., No. 1 Del Rey, Los Angeles Co. ...	27- 3-15	6,323	acidizing
Union Oil Co., No. 21 Del Rey, Los Angeles Co.	27- 3-15	3,780	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,840	sd. sh. drlg.
Yant Pet. Corp., No. 2 Newhall, Los Angeles Co. ...	36- 4-16	....	rigged up
Eyer Pet. Co., No. 1 Compton, Los Angeles Co.	20- 4-13	3,794	prod. test
Sovereign Oil Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	2,160	sd. sh. drlg.
Codri Oil Co., No. 1 Wilmington, Los Angeles Co. ...	29- 4-13	....	rigging up
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	5,597	sd. sh. drlg.
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	3,410	hd. sd. drlg.
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	6,720	sd. sh. drlg.
Standard Oil Co., No. 83 Montebello, Los Angeles Co.	2- 2-12	2,988	sd. sh. drlg.
Standard Oil Co., No. 84 Montebello, Los Angeles Co.	2- 2-12	2,953	sd. sh. drlg.
Butler, C. R., No. 1 Montebello, Los Angeles Co. ...	14- 2-10	4,086	sd. sh. drlg.
Womac, Inc., No. 3 Montebello, Los Angeles Co. ...	4- 2-11	3,191	O.S. drlg.
Woodward, J. A., No. 1 Montebello, Los Angeles Co.	4- 2-11	3,373	sd. sh. drlg.
The Texas Co., No. 13 Montebello, Los Angeles Co. ..	5- 2-11	7,312	cmtd. 6,884
Universal Consd., No. 4 Montebello, Los Angeles Co. ..	5- 2-11	6,601	flow. 95 b.d.
Universal Consd., No. 6 Montebello, Los Angeles Co. ..	5- 2-11	2,931	sd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co. ..	5- 2-11	6,352	redrlg. 5,521
Richfield Oil Co., No. 1 Montebello, Los Angeles Co. ..	5- 2-11	2,762	sd. sh. drlg.
Richfield Oil Co., No. 2 Montebello, Los Angeles Co. ..	5- 2-11	1,740	sd. sh. drlg.
North American, No. 2 Montebello, Los Angeles Co. ..	5- 2-11	3,790	sd. sh. drlg.
St. Helens Pet. Co., No. 7 Montebello, Los Angeles Co.	5- 2-11	161	sd. sh. drlg.
Oil & Gas Associates, No. 1 Pico, Los Angeles Co. ...	9- 2-11	3,984	sd. sh. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co. ..	36- 5-5	2,215	hd. sd. drlg.
Stevens, F. E., No. 1 Corona, Riverside Co.	27- 3-7	....	rigging up
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	1,686	sd. sh. drlg.
Twentieth Century Oil Co., No. 1 Huntington, Orange	36- 5-11	5,170	P.B. 4,495
Hillman & Long, No. 1 Westminister, Orange Co. ...	14- 5-11	5,700	sd. sh. drlg.
Standard Oil Co., No. 1 Anaheim, Orange Co.	36- 3-9	2,714	cleaning out
Union Oil Co., No. 29 Chapman Richfield, Orange Co.	30- 3-9	1,852	reaming
Continental Oil Co., No. 1 Yorba, Orange Co.	21- 3-9	4,194	sd. sh. drlg.

KANSAS

(Week Ending April 4. Descriptions are East unless marked otherwise)

Barton County

Arch E. Merriam No. 1 Socken, SW SW SE sec. 21-17-11w. Drlg. 895 ft.

Buchanan & Alexander No. 1 Langfeld, NE NE SW sec. 14-20-11w. S.D. 2,270 ft.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Spudded.

Davison et al No. 1 Birzer, SW SE SW sec. 22-17-12w. Rig.

Hilligoss et al No. 1 Schmidt, NE cor. sec. 27-19-11w. Drlg. 3,220 ft.

George W. Hinkle No. 1 Smith, SW NW NW sec. 1-17-11w. Drlg. 2,555 ft.

Morgan & Flynn et al No. 1 Zimmer, SE SE SW sec. 20-19-14w. Drlg. 2,920 ft.

Murphy & Morgan No. 1 Robinson, NE NE SW sec. 21-16-14w. C.O. 2,525 ft.

Roy Ramsey et al No. 1 Hunt, NW cor. sec. 19-18-11w. Drlg. 2,855 ft.

Schermerhorn Oil Co. No. 1 Hunter, NE cor. sec. 29-18-15w. S.D. 380 ft.

Simpson & Noble and Atlantic Oil Producing Co. No. 1 Wise, C NW NE sec. 31-20-13w. Drlg. 1,795 ft.

Terry & Feaster No. 1 Feist, NE NE NE SE sec. 29-18-11w. Siliceous lime 3,420-32½ ft.; T.D.; potential; pumped 346 bbls oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 22-19-12w. S.D. 135 ft.

Cowley County

Craft et al No. 1 Taylor, NE SE NW sec. 32-32-5. Rig.

Craft et al No. 1 Whitson, NE NE NE sec. 26-33-4. Spudded and S.D.

Mead Bros. et al No. 1 Orr, SE SE SW sec. 23-31-4. Drlg. 2,150 ft.

D. D. Mickieson et al No. 1 Wallace, SW SE SE sec. 10-33-4. Spudded.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4. Spudded and S.D.

Penwest Oil Co. No. 1 Clover, NE SE SE sec. 8-31-7, 19,000,000 ft. gas 1,430-60 ft.; Siliceous 2,177 ft.; T.D. 3,182 ft.; showing water; P.B. 2,260 ft.

Roth & Faurot No. 1 Guthrie, NW cor. Lot 14, sec. 36-33-6. Drlg. 2,000 ft.

E. B. Shawver et al No. 1 Wilson, S½ NE SE NE sec. 11-30-4. Miss. lime 2,950-99 ft.; T.D.; D.&A.

Shawver & Witt No. 1 Baruth, SW NW NE sec. 8-34-3. Old well deepening from 1,993 ft.; sd. 2,281 ft.; T.D. 2,305 ft.; pot. 125 bbls.; comp.

Earl Wakefield No. 1 Wilson, NW cor. sec. 4-32-3. Drlg. 2,680 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Loc.

Ellis County

Jones Bros. & Carpenter et al No. 1 Solomon, SE SE SW sec. 28-11-19w. Drlg. 777 ft.

Bridgeport Machine Co. et al No. 1 Madden Est., NE NW NW sec. 26-15-18w. Spudded.

Brunson & Ewers-Simpson No. 1 Gross, NE NE SW sec. 29-14-17w. Set 12-in. csg. 767 ft.

Harris & Haun et al No. 1 Schmeidler, SE SE SW sec. 3-13-17w. M.I.M.

Lario Oil & Gas et al No. 1 Walter, SE NE SW sec. 2-12-18w. Anhydrite 1,314 ft.

Muth et al No. 1 Penney, SW SW SE sec. 29-14-18w. M.I.M.

Tom Palmer No. 1 Schoenthaler, NE NE NW sec. 31-12-19w. Bldg. rig.

Twin Drlg. Co. No. 1 Reidel, SW SW NE sec. 27-13-16w. R.U.; S.T. 3,184 ft.

Yarnell & Carlson No. 1 Phillip, NW NW SE sec. 2-14-18w. M.I.M.

Ellsworth County

Empire O. & R. Co. et al No. 1 Krousch, NW NW SE sec. 32-17-9w. Drlg. 1,200 ft.

Skiles et al No. 1 Kafka, NE NE SW sec. 15-17-8w. H.F.W. 2,740-50 ft.; U.R.

Finney County

Lone Star State Drlg. Co. No. 1 Hamlin, SW SW NE sec. 31-24-34w. Rig.

Greenwood County

Hale & Reese No. 1 Needles, NE SE NW sec. 12-25-10. S.D. 285 ft.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW sec. 17-35-8w. Wilcox sand 5,320 ft.; S.O. and gas, salty taste; T.D. 5,410 ft.; fsg.

Harvey County

Empire O. & R. Co. et al No. 1 Webster, SE SE SW sec. 8-24-2w. U.R. at 2,956 ft.

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. S.D. 2,355 ft.

Western Kansas O. & R. Co. No. 1 Warkentin, C SW SW sec. 1-23-2w. Drlg. 2,960 ft.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. Rig.

Kuhn Brothers et al No. 1 Nilson, SW SW SE sec. 21-28-32w. R.U.R.

Kingman County

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 33-27-8w. O.W.D.D.; drlg. 4,523 ft.

Marion County

Milton et al No. 1 Young, NW NW SE sec. 17-21-3. Viola 2,935 ft.; H.F.W. 2,-930 ft.; Wilcox 2,984 ft.; set 6-in. csg. 2,984 ft.

McPherson County

Empire Oil & Ref. Co. No. 1 Cunningham, SE cor. sec. 26-18-1w. Rig.

Ok-Tex et al No. 1 Moehlinger, SE SW SW sec. 21-21-2w. Chat 3,057 ft.; Simpson 3,570 ft.; T.D. 3,650 ft.; D.&A.

Ness County

Continental Oil Co. No. 1 Holcomb, 1,320 ft. from N and 440 ft. from E lines of NW¼ sec. 26-11-22w. Drlg. 1,367 ft.

Continental Oil Co. No. 1 Thompson, C E½ E½ SW sec. 13-18-26w. R.U.R.

Norton County

Larlo O. & G. Co. and Elwell No. 1 Kennedy, SW SW NW sec. 22-3-23w. Granite wash 3,678 ft.; T.D. 3,692 ft.; D.&A.

Reno County

Dickey Oil Co. No. 1-A Shepherd, NE NE NW sec. 22-26-9w. Drlg. 3,565 ft.

Helmerich & Payne et al No. 1 Schwaiger, SW SE NE sec. 27-26-5w. Fsg. 3,800 ft.

McPherson Drlg. Co. et al No. 1 Miller, SE SE NE sec. 23-24-5w. Chat 3,365-73 ft.; swb. 15 bbls. wtr. per hr.; trace of oil.

Rice County

Joe Aylward et al No. 1 Oberle, SE SE SW sec. 19-18-10w. Drlg. 3,045 ft.

Beardmore et al No. 1 Fuller, SW SW SE sec. 23-18-7w. M.I.M.

Continental Oil Co. and Empire Oil & Ref. Co. No. 1 Nickel, NE SW SW sec. 13-18-8w. Siliceous lime 3,210 ft.; T.D. 3,214 ft.; acidized; P. 883 bbls. oil in 24 hrs.

Day No. 1 Mason, NW NE NE Sec. 28-21-7w. Chat 3,388-3,400 ft.; flowed 91 bbls. in 50 minutes; shut in 2 hrs., flowed 3 bbls. oil in 10 min.; running 6-in. lnr.

Dickey Oil Co. and Continental Oil Co. No. 1 Newkirk, NE NE SW sec. 11-18-7w. R.U.

Duwe & Schneider No. 1 Wright, NE cor. sec. 26-21-7w. Drlg. 2,150 ft.

Gilmac Oil Co. No. 1 Sargent, SE cor. sec. 31-18-6w. Spudded and S.D.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w. H.F.W. 2,705-30 ft.; set 8-in. csg. 2,775 ft.; C.O.

Gulf Oil Corp. No. 1 Steckel, SW cor. sec. 30-19-10w. Set 10-in. csg. 150 ft.

Permian Oil Co. No. 1 Monroe, C NE NE sec. 9-20-7w. Drlg. 1,655 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7w. Cellar.

Simpson & Noble et al No. 1 Pulliam, C S½ N½ NE sec. 35-19-8w. Location.

Skiles et al No. 1 Stout, SE cor. sec. 6-21-9w. M.I.M.

Vernon Oil & Gas and Cusco Oil Co. No. 1 Boldt, NW SW NW sec. 10-19-10w. Siliceous 3,346 ft.; T.D. 3,388 ft.; D.&A.

W. E. Witt No. 1 Hill, SE SE NW sec. 1-20-9w. Drlg. 1,780 ft.

Rooks County

Hartman & Blair et al No. 1 Hall, NW cor. sec. 25-10-17w. M.I.M.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. R.U.

Murfin et al No. 1 Washusin, NE NE SE sec. 19-9-16w. Drlg. 1,895 ft. in new hole.

Pryor & Lockhart's No. 1 Bradley, SW SW NE sec. 31-10-16w. Oswald 3,166 ft.; drlg. 3,605 ft.

Skaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 28-10-17w. Rig.

Rush County

Boyle & Grossman No. 1 Wilson, NE cor. sec. 33-17-19w. Drlg. 300 ft.

Ira Keith et al No. 1 Dartmouth Savings Bank, SW SW NE sec. 3-17-18w. Oswald 3,335 ft.; R.U.S.T. 3,346 ft.

National Refining Co. No. 1 Werth, NW NE NE sec. 7-16-18w. Drlg. 565 ft.

Pryor & Lockhart et al No. 1 Stegman, SW NW NE sec. 11-16-17w. Cellar.

Rose Spring Drlg. Co. et al No. 1 Jacobs, SW SE NW sec. 8-16-17w. Drlg. 1,305 ft.

Russell County

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w. Drlg. 2,185 ft.

Bridgeport Machine Co. et al No. 1 Wyckoff, SE NW NE sec. 27-11-13w. Oswald 2,955 ft.; set 6-in. csg. 2,952 ft.

Central Pet. Co. No. 1 Furthmeyer, NE cor. sec. 28-14-15w. Spudded.

Darby Petroleum Corp. and Continental Oil Co. No. 1 Letsch, SE NE NW sec. 34-14-13w. Drlg. 1,435 ft.

Eisenhour & Shaffer No. 1 Humea, SW SW SW sec. 6-14-12w. S.D. 2,300 ft.

Empire O. & R. et al No. 1 Major, SE cor. sec. 11-14-12w. Oswald 2,902 ft.; drlg. 3,160 ft.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Cellar.

Sam Murphy et al's No. 1 Enschuts & Schaffer, SW cor. sec. 10-15-13w. Siliceous 3,311 ft.; T.D. 3,327 ft.; hole filled with oil in 12 hrs.; no test.

Charles Newbold No. 1 Krug, SE SW SE sec. 4-15-14w. Siliceous 3,218-30 ft.; T.D. 3,225 ft.; D.&A.

Stearns & Streeter et al No. 1 John Hancock Ins. Co., SE SW SW sec. 31-12-14w. M.I.M.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w.
Tarkio lime 2,515 ft.; T.D. 2,550 ft.; swbd. 5 bbls. oil per hr., and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w. S.D. 2,620 ft.

Wakefield et al No. 1 Krug, NE NW SW sec. 7-15-14w. M.I.M.

Sedgwick County

Dickey Oil Co. No. 1 Ayers, SW SW NW sec. 12-27-2. Set 15-in. csg. 210 ft.

T. C. Johnson No. 1 Jansen, SW SW NW sec. 11-28-2. Wilcox sand 3,305 ft.; Siliceous 3,370 ft.; T.D. 3,404 ft.; D.&A.

Stafford County

L. A. Farris et al No. 1 Snyder, SE SE NW sec. 3-21-11w. T.D. 3,111 ft.; 3,000,000 ft.; gas; flowed 226 bbls. oil on potential test; W.O.C.

Kessler & Their No. 1 Evans, NE NE NE sec. 20-21-11w. Drlg. 3,075 ft.

Larlo O. & G. Co. et al No. 1 Andress, C NW NE sec. 1-21-13w. Drlg. 2,915 ft.

Stanolind O. & G. Co. and Atlantic Oil Prod. Co. No. 1 Shotton, SW cor. sec. 27-22-13w. Rig.

Sumner County

Craft & Wilson No. 1 Nevitt, NE NW NE sec. 36-32-2e. Set 12-in. 1,037 ft.

Helmerich & Payne et al No. 1 Elwell, NW NW NE sec. 18-34-1. Drlg. 3,330 ft.

Matthews & Derrington No. 1 Berry, NW NW SE sec. 14-35-1. Drlg. 940 ft.

Morgan et al No. 1 Small, SE SW NE sec. 27-32-2. S.D. 3,415 ft.; D.&A.

Pryor & Lockhart et al No. 1 Knowles, SW cor. sec. 30-30-1. Cellar.

Texas Co. No. 1 Reed, NE SE SE sec. 11-31-1w. Cellar.

Wilcox O. & G. Co. et al No. 1 Hess, SE SE NW sec. 13-34-2w. Drlg. 335 ft.

D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW sec. 15-35-1w. Drlg. 3,500 ft.

Trego County

Central Commercial's No. 1 Wagg, NW NW SE sec. 17-13-21w. K.C. lime 3,548 ft.; bailed 30 bbls. oil per day; acidized; bailed 12 bbls. oil per day; T.D. 3,908 ft.; C.O.

Continental Oil Co. No. 1 Holcomb, E½ E½ NW sec. 26-11-23w. Oswald lime, 3,595-3,603 ft.; standardising.

R. B. McNeely et al No. 1 Lemke, NW NW SW sec. 7-11-22w. Rotary rig.

Woodson County

C. L. Sheedy No. 1 Baker, SE SE NW sec. 2-26-14. Drlg. 1,340 ft.

Max Reynolds No. 1 Guy, NE NE SE sec. 29-25-14. S.D. 1,400 ft.

C. L. Sheedy et al No. 1 Grand Lodge, C E½ NW SW sec. 4-25-14. T.D. 1,543 ft.; D.&A.

OKLAHOMA

Week Ending April 4

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan. Oil Co. No. 1 Acre, C SW NE sec. 14-24-11w. Sylvan shale 7,065 ft.; Wilcox sand 7,259 ft.; cored 7,327-22 ft.; salty; P.B. 6,720 ft.; tools moved out.

Beckham County

Carter Oil Co. No. 1 Davidson, C NW SW sec. 2-9-25w. Drlg. 1,625 ft.

Wood Pet. & Royalty Corp. No. 1 Blair, C NW SE sec. 32-9-26w. Drlg. 2,763 ft.

Caddo County

Denver Prod. & Ref. Co. No. 1 Sah-Can, C SE SE sec. 33-10-10w. Ran whipstock to 7,900 ft.; to drill out.

Cleveland County

Hall-Briscoe, Inc. No. 1 Fant, S./ SW NE sec. 27-10-2w. S.D. at 7,511 ft.

Coal County

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10. Atoka 2,380 ft.; faulted into Cromwell 4,415 ft.; Woodford 5,-095 ft.; drlg. 5,192 ft.

Comanche County

N. E. Milling No. 1 Miller, NE NE SW sec. 23-4-12w. Drlg. 902 ft.

Garfield County

Herndon Drlg. Co. et al No. 1 Branson, SW SW SE sec. 23-24-3w. Drlg. 4,780 ft.

W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w. Miss. lime 5,960 ft.; drlg. 6,165 ft.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w. Drlg. 5,670 ft.

Hughes County

W. P. Canavan No. 1 Meadors, SE NE SE

sec. 5-8-10. Gilcrease 2,600 ft.; Wapanucka 3,050 ft.; Cromwell 3,058 ft.; sands 3,130 ft. and 3,180 ft.; slight showing of oil; T.D. 3,196 ft.; P.B. 3,168 ft.; flowed 20 bbls. oil in 24 hrs.

M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9.
Wapanucka 3,428 ft.; Cromwell 3,453 ft.; T.D. 3,454 ft.; 2 bailers wtr. an hr.; P.B. and shot, 3,030-45 ft.; est. 10,000,000 ft. of gas; P.B. to 3,412 ft.; re-shot.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9. Sd. 3,780 ft.; drlg. 3,-835 ft.

Schumacher et al No. 1 Schumacher, NE NW NE sec. 33-5-10. T.D. 1,782 ft.; tubing.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. S.O. and H.F.W. 2,435-90 ft.; S.D.

Kay County

W. O. Allen No. 1 Fulton, SE cor. sec. 18-27-4. Loc.

Black Gold Pet. Co. No. 1 Cooley, NE NW SW sec. 25-28-4e. Sand 1,395-1,450 ft.; drlg. 1,690 ft.

Kiowa County

W. C. Adams et al No. 2-A Stone, C SE SE NE sec. 34-7-17w.
T.D. 1,193 ft.; machine moved out.

J. C. Shaffer et al No. 1 Slusher, NW SW NW sec. 35-7-17w. T.D. 1,055 ft.; est. good for 5 bbls.; P.B. to 955 ft.; acidized with no results; D.&A.

Logan County

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co. No. 1 Gragg, SW SW NE sec. 20-18-4w. T.D. 6,145 ft.; flowed avg. of 65 B.P.H.; testing.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. sec. 16-7-3w. T.D. 8,157 ft.; fishing.

McCurtain County

Louis Sikes No. 1 Mitchell, C NW SW sec. 12-9s-26. R.U.R.

McIntosh County

Indian Ty. Ill. Oil Co.'s No. 1 Tancred, 1,050 ft. S and 390 ft. E of C. Sec. 9-9-14. Gilcrease sand, 2,695-2,732 ft.; 20,000,000 ft. of gas; Cromwell 3,608 ft.; sand 3,730-43 ft.; N.S.; T.D. 3,773 ft.; W.O.C.

Oklahoma Oil Corp. No. 1-A Wolf, SE SW SE sec. 35-12-17. Gas sand 800 ft.; dry sands 1,200 ft. and 1,400 ft.; set 6-in. csg. at 2,867 ft.; drlg. 3,350 ft.

Noble County

Continental Oil Co. No. 1 Pruitt, NW SE SW sec. 19-20-1w. Drlg. 3,955 ft.

Okfuskee County

Manahan & Grisso No. 1 Dalton, SE SE SE sec. 36-10-8.
Senora sand 1,723 ft.; T.D. 1,762 ft.; flowed 75 bbls. oil first hour after shot; flowed 225 bbls. in 7 hrs., and 203 bbls. in 9 hrs.; lost 4 hrs. while cleaning out.

Oklahoma County

H. R. Hollenback et al No. 1 Cooper, NW NW NE sec. 15-11-1. Drlg. 3,035 ft.

Sinclair Prairie O. & G. Co. No. 1 Corbett, NE NW NE sec. 17-13-3w.
Washed clean and acidized; flowed 17½ bbls. "gasoline" and 2,000,000 ft. of gas in 24 hrs.; cd. 6,550-60 ft.

Osage County

Champlin Ref. Co. No. 1 Osage, SW SW NE sec. 35-25-6. Cellar.

Elfred Beck No. 1 Osage, SE SE NE sec. 16-23-7. S.D. 450 ft. for pipe.

Midco Oil Corp. et al No. 1 Osage, NW NW SE sec. 11-23-6. Loc.

Payne County

Denver Producing & Ref. Co. et al No. 1 Pratt, NW cor. sec. 20-18-3. Rig.

Pontotoc County

Mid-Texas Pet. Co. No. 1 Whitney, SW SW SE sec. 30-5-4. T.D. 1,946 ft.; swbd. 100 bbls. oil in 12 hrs.; pmpd. 83 bbls. in 6 hrs.

Sandback et al No. 1 Sands, NE NE NE sec. 20-3-5. Drlg. 380 ft.

J. L. Shaw No. 1 Illinois Bankers Life Ins. Co., NW SW NE sec. 1-4-5. Drlg. 2,130 ft.

Pottawatomie County

Gulf Oil Corp. No. 1 Bois-Clark, SW SE SE sec. 21-6-4. Drlg. 3,461 ft.

Ross Oil Co. et al No. 1 Sparkman, SE NE sec. 33-8n-4e.
C.O. 3,915 ft.; shot at 3,871-90 ft.; swbd. 350 bbls. in 24 hrs.; acidized.

J. L. Shaw No. 1 Illinois Life, NW SE NW sec. 1-4-5. Drlg. 1,590 ft.

Seminole County

Amerada Pet. Corp. et al No. 1 Community, NE NE SW sec. 3-10-5. Drlg. 4,175 ft.

Ark Royalty Co. No. 1 Kiker, SE SE NE sec. 9-10-7. Rig.

Imperial Drlg. Co. No. 1 Aldridge, SW NE NW sec. 32-9-8. Drlg. 990 ft.

Sinclair Prairie Oil Co. et al No. 1 Harrison, NE NE NW sec. 17-8-8. Drlg. 1,450 ft.

Feimlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8. Sd. 1,460-1,505 ft.; S.O.&G.; S.D. 1,680 ft.

Wynona-Jarvis-Holm No. 1 Horton, NE SW NE sec. 18-7-8. Gilcrease 2,995 ft.; Cromwell 3,167 ft.; Viola 4,138 ft.; Dense 4,178 ft.; Wilcox 4,245 ft.; T.D. 4,250 ft.; D.&A.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w. S.D. 1,280 ft.

SOUTHERN OKLAHOMA

Atoka County

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12. T.D. 503 ft.; S.D. for csg.

Vierson et al's No. 1 Williams, NE SW NW sec. 34-2s-10. Produced 100,000 ft. of gas at 4,100-15 ft.; drlg. 4,330 ft.

Carter County

Carter Oil Co. No. 1 Carter-Williams, SW NE SW sec. 27-2s-3w. T.D. 5,088 ft.; flowed 10,000 bbls. of oil in 24 hrs.; drill plugs 5,030 ft. in new hole; drlg. ahead.

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w. Drlg. 3,300 ft.

Southern States Oil Dev. Co. No. 1 Moore, NE SE NW sec. 30-4s-1w. S.D. 1,155 ft.

Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w. T.D. 4,187 ft.; C.O.

Cotton County

Grace & Woods No. 1 Henderson, NE SE SW sec. 27-4s-11w. Drlg. 1,388 ft.

Harmon County

Lionlko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. Drlg. 388 ft.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w.Drlg. 1,240 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w. T.D. 2,528 ft.; fsg.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w. S.D. 1,550 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-2s-7w. Sd. 1,525-57 ft.; T.D. 1,695 ft.; S.D. for pipe.

L. C. Hydrick No. 1 Peoples National Bank, SW SW SW sec. 26-2s-5w. Loc.

Geo. Pace No. 1 Gardner, SW cor. Sec. 23-5s-5w. T.D. 2,532 ft.; S.D.O.

Reno Oil Co. No. 1 Gann, SE SW NE sec. 35-4s-4w. Drlg. 1,716 ft.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 12-2s-4e.
Arbuckle lime 1,552 ft.; drlg. 1,938 ft. in lime.

Magnolia Pet. Co. No. 1 Welch, NE cor. sec. 12-2s-7. R.U.S.T.

Moore & Wirick No. 1 Westheimer & Daube, SE NW NE sec. 19-3s-4e. Drlg. 2,583 ft.

Love County

Amerada Pet. Corp.'s No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 4,797 ft.; C.O. 4,500 ft.

J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e. T.D. 4,963 ft.; S.D. for orders.

Sinclair Prairie Oil Co.'s No. 1 Stockton SE SE SW sec. 26-6s-2w. T.D. 6,914 ft.; sd. 6,890-6,909 ft.; flowed and swbd. 534 bbls. oil in 5 days; to deepen.

Marshall County

Norman Smith No. 1 Chestnut, NE cor. sec. 23-8s-5e. Drlg. 490 ft.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 3,540 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. Drlg. 1,-004 ft.

Clyde Rhodes et al No. 1-A Doak, SW SW SW sec. 1-1s-5w. S.D. 1,303 ft.

Tillman County

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. Set 7-in. csg. 3,271 ft.; drlg. 4,395 ft.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. S.D. 495 ft.

ARKANSAS

Arkansas County

Ark. O. & G. Co. No. 3 Fischer, 250 ft. S, 200 ft. E, NW cor. NE NW sec. 6-4w. R.U.; W.O.

Calhoun County

Ben G. Barnett No. 1 Freeman Smith, SE cor. sec. 36-15-14. Set 20-in. 40 ft.

Clark County

Soris Tripanoff, tr., No. 1 W. Gibbons, sec. 27-8-18. Arranging to test 557 ft.

Dallas County

Kel-Mac Lease & Royalty Co. No. 2 R. Owens, NW cor. NW SW sec. 26-10-16. Set 10-in. 43 ft.; drlg. 280 ft.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S. 30 ft. E, NW cor. SW NE sec. 14-11-26. R.U. and S.D.

Fitzwater et al No. 2 Lafferty, C NW sec. 17-14-24. Arranging test 1,986 ft.

Murdock-May & Easton No. 1 Conway est., 330 ft. N and E, SW cor. NW SW sec. 17-14-24. Set 13⅜-in. 80 ft.; S.D. 120 ft.

LaFayette County

Earl F. Fox No. 2 Coleman Bros., NE NE sec. 30-16-24. S.D. 2,760 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-13. Drlg. 5,470 ft.

Joe Modisett No. 1 Red River Lbr. Co., C SW SW sec. 21-19-14. Drlg. 4,757 ft.

Transportation Pet. Co. No. 1 Cockran, 330 ft. S and W, NE cor. SE sec. 26-19-25. Tested S.W.; T.A. 3,675 ft.

Miller County

Odell Hinson No. 1 Montana Realty Co., NE cor. NW NW sec. 2-17-28. Set 12¾-in. csg. 238 ft.

King Oil Corp. No. 1 G. W. Crank, SW NE sec. 19-16-25. S.D.; W.O. 3,906 ft.; (corrected).

C. V. Lenz No. 3 Dale, sec. 24-15-26. Set 10-in. 200 ft.; drlg. 1,540 ft.

L. H. Mahon et al No. 1 Miller Land & Timber Co., SW cor. SE sec. 29-18-27. S.D. 1,812 ft.

Ouachita County

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-16. S.D. 1,700 ft.

Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. N and W, SE cor. SE NW sec. 27-15-15. Arranging set 9⅝-in. 4,916 ft.

J. D. Reynolds No. 1 McKenzie, 204 ft. S, 300 ft. W, NE cor. SE SW sec. 36-15-16. W.O.S.R. 1,970 ft.

Union County

Arkansas Southern Oil Co. No. 1 F. R. Laney, sec. 30-19-16.
Installing larger rig. 175 ft.

J. C. Bucbee No. 1 Exzell, SW cor. NE NW sec. 13-17-15. Drlg. 2,317 ft.

McCreasien Oil Co. No. 2 D. Norman, NE cor. NE SE sec. 3-18-13. Set 10-in. 129 ft.; cg. 3,550 ft.

Ohio Oil Co. No. 4 R. Furlough, SE NW sec. 12-17-14. Set 7-in. 3,180 ft.; comp.; 175 bbls. at 3,187 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Ark.-La. Gas Co. No. 10 Rodessa O. & Land Co., 330 ft. S and W. NE cor. SE NE sec. 23-23-16. Comp.; 55 B.P.H., 6,-012 ft.

Ark.-La. Gas Co. No. 11 Rodessa Oil & Land Co., NW cor. NE sec. 23-23-16. Set 7-in. 5,998 ft.; T.D. 6,002 ft.

Ark.-La. Gas Co. No. 12 Rodessa Oil & Land Co., NW SE sec. 22-23-16. Set 16-in. 227 ft.; drlg. 1,650 ft.

Ark.-La. Gas Co. No. 14 Rodessa O. & Land Co., SW cor. NW sec. 23-23-16. Drlg. 170 ft.

Ark-La Gas Co. No. 9-A Rodessa Oil & Land Co., SE NE sec. 22-23-16. Drlg. 3,128 ft.

Bartex Pipe Line Co. No. 2 Norton Est., 330 ft. N and E, SW cor. NW NW sec. 17-23-15. Comp.; 11 B.P.H. 6,025 ft.

Bartex Pipe Line Co. No. 3 Norton Est., SE NE sec. 18-23-15. Drlg. 5,252 ft.

Bartex Pipe Line Co. No. 4 Norton Est., SW cor. SW NW sec. 17-23-15. Set 10¾-in. 2,322 ft.

Bartex Pipe Line Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15. Fsg. for D.S. 6,028 ft.

Bartex Pipe Line Co. No. 2 Robinson, center W½ NW SW sec. 17-23-15. Set 7-in. 6,029 ft.; testing 6,057 ft.

Bartex Pipe Line Co. No. 2 Rodessa Oil & Land Co., NE SE sec. 13-23-15. Drlg. 4,753 ft.

S. P. Borden No. 1 K.C.S., NW cor. SW sec. 23-23-16. Set 13⅜-in. sec.; drlg. 2,720 ft.

Danciger O. & R. Co. No. 1 Francis heirs, C Lot 2, Blk. 10, sec. 23-23-16. Drlg. 1,230 ft.

Danciger O. & R. Co. No. 1 J. F. Neugent, C Lot 3, Blk. 12, sec. 23-23-16. Drlg. 2,403 ft.

Duncan & Woods No. 1 Andrews, Lot 5, Blk. 21, sec. 23-23-16. Drlg. 1,325 ft.

Haynes Prod. Co. No. 10 Lawton, NE SW sec. 14-22-16. Set 7-in. 6,021 ft.; T.D. 6,028 ft.

Haynes Prod. Co. No. 11 Lawton, 330 ft. N, 490 ft. E, SW cor. sec. 14-23-16. Drlg. 3,440 ft.

Haynes Prod. Co. No. 3 Otwell, SW cor. sec. 14-23-16. Comp.; 153 B.P.H., 6,008 ft.

Haynes Prod. Co. No. 4 Otwell, SE cor. sec. 15-23-16. Drlg. 5,050 ft.

Haynes Prod. Co. No. 2-B Pitts, SE cor. NW SE sec. 12-23-16. Drlg. 5,772 ft.

J. Edward Jones No. 1 Ashley, Lot 6, Blk. 13, sec. 22-23-16. Set 10¾-in. 2,004 ft.

R. W. Norton No. 1 J. Elder Unit, NE cor. sec. 23-23-16. Cg. 6,000 ft.

W. F. Lacey No. 1 Tyson, NE cor. SE NW sec. 24-23-16. Drlg. 2,505 ft.

Lyons & Neely No. 1 Blaxton, C Lot 11 and 12, Blk. 22, sec. 22-23-16. Drlg. 4,-917 ft.

M. H. Marr No. 3 Hunter, NW cor. SW sec. 13-23-16. Fsg. for D.S. 6,041 ft.

M. H. Marr No. 5 Hunter, NW cor. SW sec. 13-23-16. Set 10¾-in. 2,144 ft.

M. H. Marr No. 1 Peak, SW SE sec. 11-23-16. Set 10¾-in. 2,052 ft.; drlg. 5,-105 ft.

R. W. Norton No. 4-A Caddo Levee Board, NW NE sec. 21-23-16. Set 13⅜-in. 309 ft.

R. W. Norton No. 1 Spearman Unit, 1,980 ft. N, 1,155 ft. W, SE cor. sec. 18-23-15 Comp.; 9 B.P.H.; 5,000,000 ft. gas 6,-057 ft.

R. W. Norton No. 1 Atkins, 330 ft. N and W, SE cor. NE NE sec. 18-23-15 Set 7-in. 5,989 ft.; comp.; 68 B.P.H. 6,-020 ft.

R. W. Norton No. 1 Slattery, NW cor. sec. 28-23-16. Drlg. 4,700 ft.

Travis et al No. 1 Raney, 990 ft. W of C sec. 17-23-15. Set 7-in. 6,054 ft.; T.D. 6,060 ft.

Tri-State-Williams & Peterbaugh No. 1 Ellis, Lot 2, Blk. 20, Townsite, sec. 22-23-16. Drlg. 5,125 ft.

United Gas Pub. Ser. Co. No. 5 Ardis & Co., SW SE sec. 14-23-16. Set 7-in. 5,-991 ft.; T.D. 6,009 ft.

United Gas Pub. Ser. Co. No. 6 Ardis & Co., SE cor. sec. 14-23-16. Drlg. 4,734 ft.

United Gas Pub. Ser. Co. No. 7 Ardis & Co., SW cor. SE SW sec. 14-23-16. Drlg. 2,330 ft.

United Gas Pub. Ser. Co. No. 1 Gipson Unit, NE SW sec. 15-23-16. Set 7-in. 5,966 ft.; T.D. 5,998 ft.

United Gas Pub. Ser. Co. No. 2 M. L. Pitts Unit, NE SW sec. 13-23-16. Set 7-in. 6,-050 ft.; T.D. 6,068 ft.

United Gas Pub. Ser. Co. No. 3 M. L. Pitts Unit, NE SW sec. 13-23-16. Drlg. 4,735 ft.

United Gas Pub. Ser. Co. No. 4 M. L. Pitts Unit, SW cor. sec. 13-23-16. Set 13⅜-in. 300 ft.; drlg. 2,707 ft.

United Gas Pub. Ser. Co. No. 2 N. S. Spearman Unit, SW NW sec. 18-23-15. Set 13⅜-in. 311 ft.; drlg. 2,215 ft.

United Gas Pub. Ser. Co. No. 2 Thomas Unit, NE cor. sec. 23-23-16. Set 7-in. 5,996 ft.; T.D. 6,016 ft.

United Gas Pub. Ser. Co. No. 6 Tyson Unit, 306 ft. S, 318 ft. E, NW cor. sec. 13-23-16. Comp.; 30 B.P.H. 6,022 ft.

United Gas Pub. Ser. Co. No. 8 Tyson Unit, SW NW sec. 13-23-16. Drlg. 5,-225 ft.

United Gas Pub. Ser. Co. No. 9 Tyson, NE cor. sec. 14-23-16. Drlg. 4,883 ft.

United Gas Pub. Ser. Co. No. 11 Rodessa Oil & Land Co., NW cor. sec. 23-23-16. D.S. stuck 5,979 ft.

United Gas Pub. Ser. Co. No. 12 Rodessa Oil & Land Co., 1,389 ft. N, 148 ft. W, C sec. 22-23-16. Drlg. 5,747 ft.

United Gas Pub. Ser. Co. No. 13 Rodessa Oil & Land Co., SW NE sec. 22-23-16. Drlg. 2,180 ft.

United Gas Pub. Ser. Co. No. 14 Rodessa Oil & Land Co., NE cor. sec. 22-23-16. Set 13⅜-in. 329 ft.; drlg. 1,863 ft.

United Gas Pub. Ser. Co. No. 15 Rodessa Oil & Land Co., NE cor. sec. 22-23-16. Drlg. 3,991 ft.

United Gas Pub. Ser. Co. No. 16 Rodessa Oil & Land Co., NE cor. NW NW sec. 22-23-16. Set 9⅝-in. 2,309 ft.

United Gas Pub. Ser. Co. No. 2 I. L. Young, 1,944 ft. N, 605 ft. W, SE cor. sec. 21-23-16. Drlg. 5,883 ft.

Sabine Parish—Zwolle

Ellis Prod. Co. No. 1 Williams, 330 ft. S and W, NE cor. SE NE sec. 23-7-11. Tested dry; S.D.; W.O. 2,806 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 C. R. Mower, 270 ft. S, 400 ft. W. NE cor. NW SW sec. 9-16-10. S.D. 3,000 ft.

Lide & Greer No. 1 Davis Bros. Lbr. Co., 660 ft. S and W, NE cor. SE sec. 12-16-5w. Set 7-in. 6,141 ft.

Bossier Parish

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13. S.D. 2,298 ft.

United Gas Pub Ser. Co. No. 1-A A. J. Murff, NW cor. sec. 17-17-11. Drlg. 4,-048 ft.

Caddo Parish

Falcon Oil Co. No. 15 Dockson, NW SE sec. 27-20-15. Deepening from 2,325 ft.

Hillman et al No. 2 Muslow, NW SE sec. 32-21-15. Junked and abd. 2,140 ft.

Juan et al No. 1 Hobbs, NE NE sec. 28-21-15. W.O.S.R. 1,669 ft.

Pyramid O. & G. Co. No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16. Fsg. for D.S. 3,342 ft.

Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15. Fsg. for D.S. 2,410 ft.

Caldwell Parish

Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 15-11-3e. P.B. to 1,300 ft.; old T.D. 1,740 ft.

Claiborne Parish

W. C. Glothlin et al No. 1 Brinker, SW cor. SE sec. 10-23-4w. D.&A. 4,525 ft.

E. T. Oakes No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. sec. 1-20-5w. Fishing for D.S., 4,342 ft.

Triangle Drlg. Co. No. 1 Kilpatrick, 660 ft. N and E cen. sec. 7-19-5. O.W.D.D. 4,453 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Cg. 5,743 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 180 ft. N, SE cor. sec. 28-6n-8e. S.D. 1,126 ft.

De Soto Parish

S. S. Alexander No. 1 G. R. Stell, 330 ft S and W, NE cor. sec. 5-12-16. S.D. 5,595 ft.

A. G. Halbach et al No. 1 Staton, 150 ft N and E, SW cor. SE sec. 29-12-14. S.D. 3,204 ft.

R. C. Payne No. 1 Harris, NE cor. SW SE sec. 11-13-14. S.D. 1,050 ft.

Union Pet. Co. No. 1 Hill, sec. 5-10-13. S.D. 1,400 ft.

J. K. Wodley et al No. 2 Logan Oil Co., NW sec. 16-10-12. D.&A. 3,295 ft.

Franklin Parish

S. C. Jensen No. 1 Bailey, 660 ft. N and W of C sec. 12-11-6e. Set 12½-in. 206 ft.

Grant Parish

Alexander et al No. 1 Maxwell, sec. 9-9-1e. W.O.S.R. 1,538 ft.

Law Oil Co. No. 1 Long, SE cor. SW sec. 9-9-1e. Set 10-in. 60 ft.; S.D. for fuel 1,005 ft.

Taw Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e. Set 10-in. 60 ft.

La Salle Parish

Montague Oil Co. No. 7-A Zenonia Lbr. Co., NE cor. sec. 10-9-1e. Tested S.W. and W.O. 1,520 ft.

Lincoln Parish

Ark.-La. Gas Co. No. 1 C. E. Causey, NW cor. NE NW sec. 32-19-2w. Drlg. 3,930 ft.

Caldwell Land & Timber Co. No. 1 J. B. Hammons, 330 ft. S and E. NW cor. SE SW sec. 30-18-1w. S.D. 640 ft.

Herman L. Brown et al No. 1 S. Gardner, 330 ft. N, 380 ft. E, SW cor. NW NE sec. 10-17-4w. S.D. 4,587 ft.

Morehouse Parish

J. B. Collins et al No. 1 E. M. Clarke, SE NE sec. 10-20-7e. Rigging up.

United Gas Pub. Ser. Co. No. 32 Crossett, NE SE sec. 27-21-4e. Comp. 5,000,000 ft. gas 2,155 ft.

United Gas Pub. Ser. Co. No. 33 Crossett, NE cor. sec. 34-21-4e. R.U.

United Gas Pub. Ser. Co. No. 34 Crossett, NE cor. sec. 27-21-4e. Comp. 5,000,000 ft. gas 2,170 ft.

United Gas Pub. Ser. Co. No. 19 Tensas, NE SW sec. 5-21-4e. Set 10¾-in. 148 ft.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N. 636 ft. E, SW cor. sec. 15-18-7e. S.D. 1,270 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S 560 ft. W, NE cor. sec. 10-17-6e. S.D. 1,676 ft.

Sabine Parish

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. Set 8-in. 75 ft.

Monroe Prod. Co. No. 1 Boyd, NE cor. SE sec. 25-9-14. Set 10-in. 72 ft.; comp.; 35 B.P.D. 1,771 ft.

J. E. Nicholson No. 1 Cassell, 330 ft. S and W, NE cor. NW SW sec. 25-9-14. S.W. and abd. 2,130 ft.

Posey Sisters Oil Co. No. 2 A. J. Burkett, C NE NE sec. 18-9-13. Set 7-in. 1,440 ft.; W.O.S.R. 1,972 ft.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor sec. 19-10-13. Set 7-in. 1,550 ft.; T.D. 1,615 ft.

A. H. Tarver No. 2 Baker, NW cor. NE sec. 26-8-12. Drlg. 5,100 ft.

Whitehurst & Myers No. 1 Paul, SE cor. SW sec. 24-9-14. Set 7-in. 1,560 ft.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE cor. sec. 30-12n-10e. Set 10-in. 208 ft.

Union Parish

Boucher & Pace No. 1 Frost-Johnson, NE NE sec. 27-21-1e. Drlg. 2,501 ft.

Interstate Nat. Gas Co. No. 44 fee, NW SW sec. 7-20-4e. Comp.; 6,500,000 ft. gas 2,144 ft.

Interstate Nat. Gas Co. No. 46 fee, SE NE sec. 25-20-3e. Set 6-in. 2,101 ft.

Southern Carbon Co. No. 8 Grayling, NE SW sec. 28-21-4e. Comp.; 12,000,000 ft. gas 2,125 ft.

United Gas Pub. Ser. Co. No. 3 Stovall, NE NW sec. 33-21-4e. Rigging up.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., L-285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w. S.D. 2,960 ft.

Webster Parish

J. L. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 9-17-9. S.D. 2,114 ft.

J. P. Evans et al No. 1 T. Crichton, NE SE sec. 35-18-9. Drlg. 4,626 ft.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C sec. 23-21-10. Drlg. 6,750 ft.

SOUTH LOUISIANA FIELDS

Bayou Mallet—Acadia Parish

Superior Oil Co. No. 2 Bailey, sec. 47-7s-1e. Bldg. drk.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 26 Watkins, sec. 18-12s-12w. Drlg. sdy. sh. 4,528 ft.

Shell Pet. Corp. No. 28 Watkins, P.B. to 4,306 ft.; swbng.

Shell Pet. Corp. No. 31 Watkins, sec. 8-12s-12w. T.D. 5,587 ft.; P.B. to 5,387 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 2 Terrebonne Bay, sec. 19-22s-20e. Drlg. sh. and L. 6,751 ft.

Texas Co. No. 23 State, Sd. 4,115 ft.; no report.

Texas Co. No. 25 State, sec. 17-23s-20e. Drlg. sd. and L. 4,469 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 12 School Land, sec. 16-14s-13w. T.D. 3,800 ft.; flowed 454 B.P.D. then went dead.

Burton Sutton Oil Co. No. 13 School Land, sec. 16-14s-13w. Drlg. sd. 2,175 ft.

Humble-Magnolia No. 16 Cameron Meadows, Bldg. drk.

Texas Co. No. 2 Miami Corp., sec. 15-14s-13w. Drlg. sd. and sh. 3,765 ft.

Chenoyville—Rapides Parish

Texas Co. No. 1 Weil, sec. 53-1s-2e. R.U.

Texas Co. No. 2 Weil, sec. 53-1s-2e. Drlg. sh. and L. 5,010 ft.

Texas Co. No. 1 State (Andrade), sec. 5-1s-2e. S.D. 86 ft.

Choctaw Dome—Iberville Parish

Standard Oil Co. No. 8 Myrtle Grove Wilburt, sec. 52-9s-11e. T.D. 5,828 ft.; P.B to 2,450 ft. and sdtkd.; drlg. sh. 2,637 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 11 Community, sec. 32-10s-2e. T.D. 1,955 ft.; preparing to run 10¾-in. csg.

Humble O. & R. Co. No. 6 Gumble, sec. 33-10s-2e. T.D. 6,157 ft.; P.B. to 3,017 ft.; sdtkd. at 3,027 ft.; drlg. sdy. sh. 3,087 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e. Drlg. sh. 6,070 ft.

Edgerly—Calcasieu Parish

J. G. Sutton No. 17 Lillard, sec. 28-9s-11w. S.D. 1,552 ft.

Thompson & Mossart No. 1 Fairchild. Drk.

Garden Island Bay—Plaquemines Parish

Texas Co. No. 18 State, sec. 37-23s-32e. T.D. 4,362 ft.; rng. electrical cg. test.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 1 Frost, sec. 11-9s-8w. Drlg. sh. 6,450 ft.

Fohs Oil Co. No. 1 Mary McIver, sec. 14-9s-8w. Derrick.

Union Sulphur Co. No. 1 J. A. Bel estate. Drlg. sh. 7,110 ft.

Union Sulphur Co. No. 1 G. S. Cole, sec. 12-9s-8w. Drlg. sh. 5,610 ft.

Union Sulphur Co. No. 6 Castle, sec. 19-9s-8w. T.D. 7,736 ft.; perforated csg. from 5,427-32 ft.; tested S.W. and gas.

Union Sulphur Co. No. 18 State, sec. 14-9s-8w. T.D. 6,734 ft.; I.P. 600 B.P.D.

Hackberry—Cameron Parish

Calcasieu Oil Co. No. 6 Hanzen, sec. 14-12s-10w. Drlg. sh. 4,765 ft.

Gulf Ref. Co. No. 20 Irwin, sec. 12-12s-10w. T.D. 7,806 ft.; P.B.; drlg. sd. 7,042 ft.

Stanolind O. & G. Co. No. 16-A School Land, sec. 16-12s-12w. Drlg. sh. 869 ft.

Stanolind O. & G. Co. No. 21-B Gulf Land, sec. 14-12s-10w. S.D. 6,963 ft.; top salt 6,943 ft.

Stanolind O. & G. Co. No. 23-B Gulf Land, sec. 14-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w. Cg. sand with odor of oil 6,570 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 19 Heyd, sec. 13-9s-7w. T.D. 9,161 ft.; P.B. to 5,225 ft.; I.P. 30 B.P.H.; 16/64-in. choke; T.P. 1,000 lbs.; C.P. 1,250 lbs.

Shell Pet. Corp. No. 20 Heyd, sec. 13-9s-7w. T.D. 5,275 ft.; P.B. to 5,246 ft.; testing.

Shell Pet. Corp. No. 7 Stafford, sec. 18-9s-7w. Drlg. sh. 3,173 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Banta, sec. 49-13s-9e. Drlg. hd. rock 7,190 ft.

Herton Oil Co. No. 1 Carter, sec. 33-13s-9e. Drlg. sd. and sh. 6,271 ft.

Herton Oil Co. No. 3 Roane, sec. 40-13s-9e. Drlg. sh. 4,213 ft.

Jennings—Acadia Parish

Shell Pet. Corp. No. 1 Conover, sec. 46-9s-2w. Drlg. sdy. L. 5,132 ft.

Stanolind O. & G. Co. No. 16 Houssiere-Latrielle, sec. 47-9s-2w. Drlg. sh. 1,621 ft.

Lafitte—Jefferson Parish

Texas Co. No. 3 Rigolettes, sec. 30-17s-24e. Drlg. sh. 9,300 ft.

Texas Co. No. 3 Lafitte, sec. 19-17s-24e. T.D. 9,555 ft.; I.P. 1,300 B.P.D.; ⅝-in. choke; T.P. 1,630 lbs.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State, R.U.

Texas Co. No. 39 State, sec. 26-12s-20e. Drlg. L. 2,429 ft. (corrected).

Leesville—LaFourche Parish

Gulf Prod. Co. No. 8 Allen Land Co., sec. 21-21s-22e. B.P.

Lincoln Oil Co. No. 2 Constentine, sec. 27-21s-22e. Drlg. sh. 2,970 ft.

Texas Co. No. 44 Leesville, sec. 27-21s-22e. T.D. 4,200 ft.; preparing to test.

Texas Co. No. 45 Leesville, sec. 34-21s-22e. Drlg. sh. 1,837 ft.

Roanoke—Jefferson Davis Parish

Gissell and Gulf Prod. Co. No. 1 T. A. Anding, sec. 2-9s-4w. T.D. 5,692 ft.; 7-in. csg. 5,672 ft.; I.P. 30 B.P.H.; ¾-in. choke; T.P. 985 lbs.; C.P. 1,210 lbs.

Humble O. & R. Co. No. 2 C. N. Taylor, sec. 12-9s-4w. Drlg. sh. 2,950 ft.

Shell Pet. Corp. No. 5 Kratzer, sec. 12-9s-4w. Drlg. sh. 2,530 ft.

Port Barre—St. Landry Parish

Pacheon Oil Co. No. 1 Gauden, Sec. 4-6s-6e. T.D. 3,718 ft.; P.B. to 3,298 ft.

Pan American Prod. Co. No. 1 Watkins. T.D. 5,026 ft.; P.B. to 2,850 ft.; drlg. sh. and L. 5,010 ft.

Texas Co. No. 1 Futral, sec. 20-6s-5e. Drlg. sh. 98 ft.

St. Martinville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 18-11s-6e. T.D. 5,004 ft.; cd. sd. showing oil and gas from 4,981-91 ft.; prep. to test.

Tide Water Oil Co. No. 2 Smedes, sec. 57-11s-6e. T.D. 8,735 ft.; washing to bottom.

Sorrento—Ascension Parish

Athens Oil Co. No. 4 United land, sec. 15-10s-4e. T.D. 4,332 ft.; 7-in. csg. at 4,291 ft.; S.D.

Sorrento Oil Co. No. 1 Bernard, sec. 9-10s-4e. Derrick.

Starks—Calcasieu Parish

L. R. Welhite No. 1 Industrial Lbr. Co., sec. 19-9s-12w. T.D. 3,883 ft.; C.O.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 821 fee, sec. 29-9s-10w. T.D. 3,385 ft.; I.P. 723 B.P.D.; 24/64-in. choke; T.P. 240 lbs.

Union Sulphur Co. No. 822 fee, sec. 29-9s-10w. Drlg. 1,619 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 2 Homeseekers, sec. 29-7s-2w. Drlg. sdy. sh. 7,369 ft.

Continental Oil Co. No. 2 C. Miller, sec. 29-7s-2w. Cd. gas sd. 8,290-8,304 ft.; cg. ahead for oil sd.

Continental Oil Co. No. 1 P. W. Miller, sec. 28-7s-2w. T.D. 8,316 ft.; I.P. 183 bbls. in 17 hrs.; 2/16-in. choke; T.P. 2,500 lbs.; C.P. 2,558 lbs.

Continental Oil Co. No. 1 A. Ortego, sec. 29-7s-2w. W.O.C. 1,518 ft.

Continental Oil Co. No. 1 Adras Young, sec. 29-7s-2w. R.U.

General Crude Oil Co. No. 1 Vincent, sec. 31-7s-2w. Loc.

Loffland Bros. No. 1-A L. C. Bowles, sec. 28-7s-2w. T.D. 7,665 ft.; fsg.

Loffland Bros. No. 1-B L. C. Bowles, sec. 23-7s-2w. T.D. 7,419 ft.; P.B. to 6,450 ft.; sdtkd. at 6,770 ft.; drlg. ahead.

S. LOUISIANA WILDCATS

Acadia Parish

Magnolia Pet. Co. No. 1 Homeseekers Dev. Co., sec. 54-10s-1w. Drk.

Allen Parish

Humble O. & R. Co. No. 1 J. A. Bell, sec. 28-6s-7w. R.U.

Avoyelles Parish

Frost Oil Co. No. 1 Hinds Lbr. Co., sec. 3-3n-4e. R.U.

Cameron Parish

Magnolia Pet. Co. No. 1 Hebert, sec. 13-12s-9w. Bldg. drk.

West Feliciana Parish

R. L. Morris (C. L. Thompson) No. 1 Percy, sec. 89-1s-4w. Drlg. sh. 4,934 ft.

Iberia Parish

Canal Oil Co. No. 3 Sabatier, sec. 54-12s-7e. Drk.

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e. T.D. 8,610 ft.; preparing to test through perforation 8,452-79 ft.

Jefferson Lake Oil Co. No. 322 State Lake Pleigneur. Drlg. sh. 3,987 ft.

Kitos Oil Co. No. 2-A Sealey, sec. 56-12s-7e. R.U.

Texas Co. No. 1 State Fausse Point, P.B. to 6,400 ft.; cmtd. whipstock and sidetracked at 5,781 ft.; T.D. 6,405 ft. in new hole; abd.

Jefferson Davis Parish

J. K. Lewis No. 1 Lockmore, sec. 32-7-4. Drlg. sh. 5,847 ft.

Shell Pet. Corp. No. 1 Lacassan, sec. 9s-11s-5w. T.D. 9,802 ft.; P.B. to 8,176 ft.; W.O.C.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e. T.D. 6,315 ft.; D.S. stuck.

St. Martin Parish

Southern Oil (S. C. Yingling et al) No. 1 State, sec. 13-9s-8w. T.D. 3,172 ft.; preparing to test.

Texas Co. No. 8 St. Martins Land, sec. 17-8s-7e. Drlg. L. and sh. 7,582 ft.

Rapides Parish

Foster Oil Co. No. 1 J. F. Hogan, sec. 3-1s-2e. T.D. 6,005 ft.; showed S.W. on D.S.T. from 5,702-51 ft.

Vermillion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. R.U.

TEXAS

Week Ending April 4

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 3-X Remment, Wm. C. White Sur. T.D. 4,110 ft.; 7-in. csg. at 4,039 ft.

Humble O. & R. Co. No. 10-X Sherrod, Wm. C. White Sur. T.D. 4,088 ft.; I.P. 76 B.P.H.; ½-in. choke; T.P. 490 lbs.; C.P. 595 lbs.

Byron Mound—Brazoria County

Texas Co. No. 3 Freeport Sulphur Co., C. Areola Sur. Drlg. sd. and bldrs. 2,485 ft.

Damon Mound—Brazoria County

Sinclair Prairie Oil Co. No. 24 Jackson, H. Darst Sur. Rig.

Hastings—Brazoria County

Humble O. & R. Co. No. 6 Cannon, H.T. &B. Sur. Rig.

Humble O. & R. Co. No. 4 Cannon, H.T.& B. Sur. No. 36, T.D. 6,030 ft.; 7-in. csg. at 5,876 ft.; I.P. 30 B.P.H.; ¼-in. choke; T.P. 925 lbs.; C.P. 925 lbs.

Stanolind O. & G. Co. No. 3 J. W. Miller, A.C.H.&B. Sur. No. 2. Drk.

Stanolind O. & G. Co. No. 1 C. D. Brown, H.T.&B. Sur. No. 29. T.D. 6,080 ft.; I.P. 529 B.P.D.; ¼-in. choke; T.P. 900 lbs.; C.P. 500 lbs.

Stanolind O. & G. Co. No. 2 Brown, H.T. &B. Sur. No. 29. R.U.

Stanolind O. & G. Co. No. 1 Droege Meyer, H.T.&B. Sur. No. 26. T.D. 6,052 ft.; 7-in. csg. 6,019 ft.; drlg. plug.

Stanolind O. & G. Co. No. 4 Grote, A.C. H.T.&B. Sur. No. 2. Cg. hd. sd. 5,722 ft.

Stanolind O. & G. Co. No. 5 Shaw, H.T.& B. Sur. No. 36. T.D. 5,836 ft.; 7-in. csg. at 5,608 ft.; I.P. 642 B.P.D.; ¼-in. choke; T.P. 875 lbs.; C.P. 850 lbs.

Stanolind O. & G. Co. No. 7 Sneed, A.C. H.&B. Sur. No. 2. T.D. 6,080 ft.; 7-in. I.P. 72 bbls. in 3 hrs.; ½-in. choke; T.P. 800 lbs.; C.P. 800 lbs.

Stanolind O. & G. Co. No. 4 B. L. Turney, A.C.H.&B. Sur. No. 1. 10¾-in. csg. at 1,852 ft.; W.O.C.

Manvel—Brazoria County

Bowles & Barsodi No. 5 Norvell, Lot 45 sec. 22, H.&T.C. Sur. Drlg. sh. and L. 5,280 ft.

Texas Co. No. 2-B Belcher, H. N. Little Sur. Drlg. sd. 967 ft.

Texas Co. No. 5-B Belcher, H. N. Little Sur. T.D. 5,150 ft.; 7-in. csg. at 5,120 ft.; I.P. 556 B.P.D.; ¼-in. choke.

Texas Co. No. 21-B Belcher, H. N. Little Sur. Bldg. drk.

Texas Co. No. 21 Houston Oil Field Assn., A.C.H.&B. Sur. No. 91. Drlg. sh. and L. 3,952 ft.

Texas Co. No. 2 Natali, H. N. Little Sur. T.D. 5,150 ft.; 7-in. csg. at 5,129 ft.; I.P. 400 B.P.D.; ¼-in. choke; T.P. 625 lbs.; C.P. 740 lbs.

Texas Co. No. 5 O. L. Rash, T. Sproggins Sur. Drlg. sh. 1,135 ft.

Turman Oil Co. No. 3 F. Hart, H.T.&B. Sur. No. 24. Drlg. L. 4,460 ft.

Uscan Oil Co. No. 1 Wilson, H.T.&B. Sur. No. 23. Drlg. sh. 300 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 3 Grippon, H.& T.C. Sur. Drlg. sh. 6,295 ft.

Humble O. & R. Co. No. 1 C. A. Lord, H.&T.C. Sur. Cg. O.S. 7,055 ft.

Humble O. & R. Co. No. 1 Johnson, H.& T.C. Sur. T.D. 7,085 ft.; 7-in. csg. 7,048 ft.; I.P. 29 B.P.H.; ¼-in. choke; T.P. 1,100 lbs.; C.P. 1,250 lbs.

Humble O. & R. Co. No. 15 Middleton, H.&T.C. Sur. T.D. 7,085 ft.; 7-in. csg. at 7,045 ft.; I.P. 26 B.P.H.; ¼-in. choke; T.P. 1,000 lbs.; C.P. 1,100 lbs.

Humble O. & R. Co., No. 5 Tyrell, H.& T.C. Sur. T.D. 7,082 ft.; 7-in. csg. at 7,041 ft.; I.P. 29 B.P.H.; ¼-in. choke; T.P. 1,000 lbs.; C.P. 1,100 lbs.

Humble O. & R. Co. No. 6 Tyrell, H.&T.C. Sur., sec. 52. 10¾-in. csg. at 1,519 ft.; drlg. sh. at 1,555 ft.

Humble O. & R. Co. No. 2 Wilcox, sec. 50, H.&T.C. Sur. Drlg. sh. 3,200 ft.

Humble O. & R. Co. No. 8 White, James McGahey Sur. T.D. 7,095 ft.; 7-in. csg. 7,068 ft.; I.P. 9 B.P.H.; ¼-in. choke; killed well; pulled tbg.

Sun Oil Co. No. 10 White, J. McGahey Sur. T.D. 7,084 ft.; 7-in. csg. 7,030 ft.; I.P. 27 B.P.H.; ¼-in. choke; T.P. 1,025 lbs.; C.P. 975 lbs.

Sun Oil Co. No. 11 White, J. McGahey Sur. Drlg. L. 1,865 ft.

Sun Oil Co. No. 12 White, James McGahey Sur. R.U.

Barbers Hill—Chambers County

Sinclair Prairie No. 19 Wilburn, Henry Griffith Sur. T.D. 4,552 ft.; rmg.

Stanolind O. & G. Co. No. 29 Chambers, Wm. Bloodgood Sur. Derrick.

Superior Oil Co. No. 2-B Barber, T.D. 5,279 ft.; rng. 4¾-in. csg.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 2 Middleton, M. A. Carroll Sur. T.D. 1,174 ft.; 10¾-in. csg. at 1,156 ft.; W.O.C.

Stanolind O. & G. Co.-State No. 1 Turtle Bay, T.D. 7,459 ft.; P.B. 6,715-6,565 ft. and from 5,500-5,400 ft.; set whipstock at 5,415 ft.; rmg. rathole.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 68 Davis, M. Young Sur. Drlg. sd. 3,620 ft.

Blue Ridge—Fort Bend County

Ben Barnett No. 1 Blakely, E. Drew Sur. T.D. 2,058 ft. in sand; testing.

Mills Bennett No. 4 Luscher, T. Haber-

macher Sur. T.D. 1,163 ft.; 10-in. at 1,-148 ft.; W.O.C.

D. M. Wallace and Woodley Pet. Co. No. 2 Blakely, H. Drew Sur. T.D. 3,963 ft.; P.B. to 3,938 ft.; testing.

Boling—Wharton County

Texas Co. No. 16-A Anne Taylor, S. F. Austin Sur. T.D. 3,484 ft.; 7-in. at 3,-430 ft.; drlg. plug.

Orchard—Fort Bend County

Gulf Prod. Co. No. 44 Moore, Leo Burknapp Sur. Drlg. sh. 5,777 ft.

Gulf Ref. Co. No. 45 Moore, German Immigration Sur. No. 8. Sd. 6,705 ft.; S.D.

Gulf Oil Corp. No. 4-A Moore, J. Fraser Sur. Drlg. sh. 215 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 5 B.&N.O., Fitzsimmons Sur. T.D. 6,477 ft.; P.B. 5,795 ft.; 7-in. csg. at 5,755 ft.; perforating to test.

Stanolind O. & G. Co. No. 54 Cade, W. Fitzsimmons Sur. Drlg. sd. and L. 5,-022 ft.

Stanolind O. & G. Co. No. 55 Cade, Wm. Hudson Sur. Drlg. sd and sh. 4,130 ft.

Stanolind O. & G. Co. No. 1 Cooper, M. Dunman Sur. Bldg. drk.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, M. Dunman Sur. Drlg. sd. and sh. 5,458 ft.

Dickinson—Galveston County

Coast Pet. Co. No. 3 Stewart, W. K. Wilson Sur. T.D. 8,565 ft.; 7-in. csg. 8,-565 ft.

Humble O. & R. Co. No. 2 Magle, J. S. Jones Sur. Drlg. sh. 2,041 ft.

Humble O. & R. Co. No. 2-B Bayou Dev. Co., J. Sellers Sur. T.D. 8,198 ft.; D.S.T. from 7,956-8,101 ft. recovered 32 stands mud, 55 stands S.W.

Humble O. & R. Co. No. 7-A Stewart, J. Sellers Sur. R.U.

Humble O. & R. Co. No. 5-B Stewart, J. Sellers Sur. T.D. 8,050 ft.; sd. S.O. at 8,-037-48 ft.; 7-in. csg. at 8,029 ft.; I.P. 226 B.P.D.; ¼-in. choke; T.P. 300 lbs.; C.P. 1,125 lbs.

Pure Oil Co. No. 3 Shelar, B.B.B.&C. Sur. T.D. 8,052 ft.; 7-in. csg. 8,025 ft.; swbg.

Stanolind O. & G. Co. No. 5 State, Tract 3. Drlg. sh. 6,060 ft.

Batson—Hardin County

Deering et al No. 2 Jordan, W. Donoho Sur. T.D. 5,140 ft.; I.P. 380 B.P.D.

Nimrod Prod. Co. No. 1 Butler, W. Donoho Sur. Rig.

Saratoga—Hardin County

John Deering No. 1 Teel, Thomas Gaines Sur. Rig.

Pierce Junction—Harris County

Gulf Oil Corp. No. 3 Manchester, J. A. Williams Sur. Drlg. gbo. 1,250 ft.

Harrison and Abercrombie No. 8 Ritter, J. Hamilton Sur. Drlg. wtr. sd. 5,120 ft.

Rio Bravo Oil Co. No. 10 fee, B.B.B.&C. Sur. T.D. oil sd. 4,635 ft.; 7-in. csg. at 4,332 ft.; sdtkd. at 4,029 ft.; cg. 4,130 ft.

Rio Bravo Oil Co. No. 4 G.H.&S.A., G.H.& S.A. R.R. track. T.D. 5,014 ft.; P.B. to 4,153 ft.; comp. at T.D. 4,065 ft.; I.P. 150 B.P.D.; ¼-in. choke.

Wright et al No. 4 Gulf Jones fee, J. A. Williams Sur. Drlg. oil sd. 3,431 ft.

Humble—Harris County

Texas Co. No. 51 Stevenson, J. B. Stevenson Sur. T.D. 2,671 ft.; P.B. 2,627 ft.; 7-in. csg. at 2,603 ft.; drlg. plug.

Mykawa—Harris County

West Prod. Co. No. 9 Irwin, W. B. Walker Sur. Drlg. sh. and L. 3,850 ft.

South Houston—Harris County

Dick Schwab No. 1 T. Bennett, H.T.&B. Sur. No. 6. Drk.

Smith & McDannald No. 1 R. R. Reynolds, H.T.&B. Sur. No. 6. W.O.C. at 93 ft.

Smith & McDannald No. 1 S. S. Vallos, Mary Nichols Sur. Top oil sd. 3,907 ft.; cg. oil sd. 3,917 ft.; I.P. 240 B.P.D.; 12/64-in. choke; T.P. 1,175 lbs.; C.P. 1,-550 lbs.

Stanolind O. & G. Co. District No. 4, H. T.&B. Sur. Drlg. sd. 4,835 ft.

Stanolind O. & G. Co. District No. 6, H. T.&B. Sur. T.D. 4,775 ft.; 7-in. csg. 4,-599 ft.

Stanolind O. & G. Co. District No. 7, H. T.&B. Sur. T.D. 4,773 ft.; rng. 7-in. csg.

Stanolind O. & G. Co. District No. 20, H. T.&B. Sur. Drlg. sh. and L. 2,496 ft.

Stanolind O. & G. Co. No. 1, District 46, center of Lot 8, Blk. 158, H.T.&B. Sur. No. 5. Abd. 5,326 ft.

Sterling O. & R. Co. No. 2 Summers, H. T.&B. Sur. No. 6. Drlg. sh. and L. at 1,015 ft.

Tomball—Harris County

Humble O. & R. Co. No. 4 Faris, W. Usner Sur. T.D. 5,538 ft.; 7-in. csg. on bottom; 3,048,000 ft. of gas per day; ¼-in. choke; T.P. 1,950 lbs.; C.P. 1,900 lbs.

Humble O. & R. Co. No. 4 Gassett, E. Smith Sur. Rig.

Humble-Magnolia No. 12 J. D. Reid, C. Goodrich Sur. Drlg. sh. at 2,910 ft.

Humble O. & R. Co. No. 13 Reid, C. Goodrich Sur. Drlg. sh. at 2,089 ft.

Humble O. & R. Co. No. 3 Scherer, T.D. 5,590 ft.; I.P. 8 B.P.H.; ¼-in. choke; T.P. 1,375 lbs.

Humble O. & R. Co. No. 1 Townsite area, J. House Sur. R.U.

Humble O. & R. Co. No. 1 West, Elizabeth Smith Sur. T.D. 5,560 ft.; 7-in. csg. on bottom; perforated 5,556-60 ft.; S.D.

J. E. Mabee No. 4 Baker, J. House Sur. Drlg. sh. and L. 2,080 ft.

Shell Pet. Corp. No. 1 Robertson. T.D. 5,562 ft.; rocking with gas.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Broussard C. Williams Sur Drlg. sdy. sh. 3,070 ft.

Humble O. & R. Co. No. 2 R. C. Miller, A. Savery Sur. Cg. sh. 7,815 ft.

Glenn McCarthy No. 2 Bessie Longe, H. Williams Sur. Drlg. sh. 4,336 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin and Davis, Wm. McFaddin Sur. Rig.

Fannett—Jefferson County

Blue Eagle Oil Co. No. 2 Junker, W. H. Smith Sur. No report.

Gulf Oil Corp. No. 18 Thomas, W. H. Smith Sur. Drlg. sh. 5,169 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 14-C Kirby, C. J. Pleasant Sur. Drlg. sh. 3,200 ft.

Esperson—Liberty County

Crown Pet. Co. No. 1 Davis, D. Kokernot Sur. Drlg. sh. 1,759 ft.

General Crude Oil Co. No. 14 Davis, D. Kokernut Sur. Derrick.

General Crude Oil Co. No. 25 Esperson, Wm. Bloodgood Sur. Drlg. sdy sh. 2,-330 ft.

Hankamer—Liberty County

Gulf Oil Corp. No. 24 Boyd, Amos Allen Sur. Drk.

Gulf Oil Corp. No. 6 Crow and Jacobs, H.T.&C. Sur. No. 21. Drlg. sh. 4,271 ft.

Hardin—Liberty County

Atlantic Oil & Prod. Co. et al No. 1 Hardy, James Robinson Sur. 10¾-in. csg. 1,060 ft; drlg. sh. 5,630 ft.

Hull—Liberty County

Humble O. & R. Co. No. 39 Guedry, J. Devore Sur. T.D. 4,138 ft.; 7-in. csg. at 4,032 ft.; W.O.C.

Van Vleck—Matagorda County

Skelly Oil Co. No. 1 Langham, M. Cummings Sur. Drlg. 2,120 ft.

Skelly Oil Co. No. 4-B Cobb, M. Cummings Sur. T.D. 7,502 ft.; 7⅝-in. csg. 7,502 ft.; testing.

Markham—Matagorda County

Hamill & Hamill No. 4 Hudson, H. Parker Sur. Rig.

Conroe—Montgomery County

Sun Oil Co. No. 18 Foster, C. B. Stewart Sur. Drlg. sh. 5,015 ft.

Port Neches—Orange County

Texas Co. No. 6-B Polk, J. Beaumont Sur. T.D. 6,952 ft.; 7-in. csg. at 5,856 ft.; drilled plug; circulating and conditioning mud; P.B. to 5,721 ft.; set whipstock at 4,071 ft.; milling on csg.

Greta—Refugio County

United Gas Co. No. 23 Lambert, Hardwick Sur. T.D. 5,852 ft.; rng. csg.

Hewitt and Daugherty No. 22 Lambert, Hardwick Sur. T.D. 5,858 ft.; I.P. 45 B.P.H.; ⅝-in. choke.

Refugio—Refugio County

Sorey et al No. 1 Cable, Refugio townsite. T.D. 3,694 ft.; S.D.

United Gas Co. No. 17 Fox Hews Survey. T.D. 6,259 ft.; testing.

Tomoconnor—Refugio County

Quintana Oil Co. No. 33-A O'Connor, Swisher Sur. T.D. 5,950 ft.; I P. 34B.P. H. through ⅝-in. choke.

Coletto Creek—Victoria County

American Liberty Oil Co. No. 2 Laughlen, R. Manchola Sur. Drlg. sh. 2,350 ft.

Artez Oil Co. No. 1 Dietzel, R. Manchola Sur. Cg.

Placedo—Victoria County

American Liberty Oil Co. No. 4 Gray, S.A.&M.G. Sur. 7-in. csg. at 4,771 ft.; W.O.C.

Barnsdall Oil Co. No. 2 Pickering-Roos, S.A.&M.G. Sur. T.D. oil sand 4,758 ft.; I.P. 5 B.P.H.; ⅝-in. choke.

Barnsdall Oil Co. No. 3 J. M. Pickering S.A.&M.G. Sur. No. 5. Drlg. sh 2,000 ft.

Barnsdall-Felmont No. 4 Pickering, A. Murray Sur. Rig.

Barnsdall Oil Co. et al No. 2 Wheless, J. M. Bronson Sur. Drlg. L. 4,740 ft.

Crown Central Pet. Co. No. 1 F. Gebrover, S.A.&M.G. Sur. No. 8. T.D. 4,765 ft.; made D.S.T.

Eastern Texas Pet. Co. No. 1 J. Hasek, S.A.&M.G. Sur. R.U.

Harrison & Abrocrombie No. 1 C. O. Vess, J. M. Bronson Sur. Drlg. sh. 5,950 ft.

Sun Oil Co. No. 4 Marek, J. M. Bronson Sur. Drlg. sh. 4,360 ft.

Clay Creek—Washington County

Sun Oil Co. No. 3 Freeman, J. F. Perry Sur. T.D. 965 ft.; 15-min. D.S.T. from 924-45 ft. showed 2 joints of mud, and slight S.O.

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. Rig.

Louise—Wharton County

Pure Oil Co. No. 3 Lancaster, M.&C. Sur., sec. 33. Cg. sh. 4,590 ft.

Pure Oil Co No. 1 Rivers, sec. 19. T.D. 5,158 ft.; 7-in. csg. on bottom; drlg. plug.

Pickett Ridge—Wharton County

Texas Co. No. 13-A Pierce, L.&G.N. Sur. T.D. 4,709 ft.; I.P. 13 B.P.H.; ¼-in. choke

Texas Co. No. 14-A Pierce, L.&G.N. Sur. No. 39. Drk.

Texas Co. No. 15-A Pierce, G.H.&S.A. R.R. right of way. T.D. 4,112 ft.; 7-in. csg. at 4,703 ft.

Texas Co. No. 16-A Pierce, L.&G.N. Sur. T.D. 4,707 ft.; 7-in. csg. at 4,701 ft.

Withers—Wharton County

Texas Co. No. 1-B Pierce, E.T. R.R. Sur., Abst. No 108. Drlg. gbo. and L. 2,-458 ft.

Texas Co. No. 3-C Pierce, J. Caldwell Sur T.D. 5,565 ft.; 7-in. 5,557 ft.; I.P. 15 B.P.H.; ¼-in. choke.

Texas Co. No. 4-C Pierce, J. Caldwell Sur. Drlg gbo. and bldrs. 1,120 ft.

GULF COAST WILDCATS

Brazoria County

Gulf Oil Corp. No. 1 Fairfield, A. Robinson Sur. Drlg. sh. 6,535 ft.

Strake Oil Corp. et al No. 1 D. K. Poole, J. W. Harding Sur. Drlg. sd. and sh. 6,535 ft.

Texas Gulf Prod. Co. No. 1 Sparks. Drlg. sh. 2,780 ft.

Chambers County

Glenn McCarthy No. 1 Pitt, J. M. Duran Sur. R.U.

Salt Dome Oil Co. No. 2 Lawrence, Solomon Borrow. 10¾-in. csg. 1,415 ft.; drlg. sh. 4,555 ft.

Calhoun County

Continental Oil Co. No. 2-A American Realty Co., Pedro Garcia Sur., Lot 1, Blk. "C." T.D. 9,083 ft.; set 5¾-in. csg. on bottom; csg. collapsed; plugged off the bottom of csg. at 8,010 ft.; perforated csg. 7,737-75 ft.; preparing to test after rng. 2-in. tbg.

Crown Central Pet. Co. No. 1 M. C. Driscoll Benito Morales Sur. Drlg. sh. 6,-150 ft.

Humble O. & R. Co. No. 1 Patrick H. Welder, Jose Maria Rios Sur. Abd. 6,-509 ft.

Matagorda Oil Corp. No. 1 Brundrett. Drlg. sh. at 500 ft.

Colorado County

G. W. Johnson No. 1 Drymalle, T. Coleman Sur. Drlg. sh. 4,500 ft.

Sterling Oil & Roy. Co. No. 2-B Powell, I.&G.N. Sur., sec. 45. T.D. 5,920 ft.; prepare to test.

Galveston County

Sun Oil Co. No. J. D. Hughes, W. M. C. Baker Sur. T.D. 8,613 ft.; milling at 8,-425 ft.

Grimes County

Crook Bros. No. 1 W. W. and J. C. Greir. Derrick.

Hardin County

Republic Prod.-Houston Oil Co. No. 1 A. A. Burrell, A. A. Burrell Sur. No. 5-A. Abd. at 7,129 ft.

Harris County

Amerada Pet. Corp. No. 1 Nellie Esperson, George Patrick Sur. 13⅜-in. csg. 667 ft.; T.D. 975 ft.

Bunte O. & G. Co. No. 1 Lobit et al, Benjamin Barrow Sur. Drk.

Jefferson County

Magnolia Pet. Co. No. 1 Funches, sec. 16, H.T.&B. Sur. Drlg. sh. 2,400 ft.

Sun Oil Co. No. 1 Herbert & Broussard, B. Blackman Sur., Abst. No. 2. T.D. 8,-824 ft.; twisted off drill collar at 7,-502 ft.

Smith and McDannald No. 1 Grennell, Blk. 8, H.&T.C. Sur. Drlg. sh. 8,427 ft.

Matagorda County

Continental Oil Co. No. 1 Feife, J. S Criswell Sur. T.D. 7,629 ft.; P.B. to 6,024 ft.; cutting and pulling 8⅝-in. csg.

Helmerich & Payne, No. 1 Hawkins, D. McCarthy Sur. P.B. to 7,318 ft.; attempted to test at 7,030-64 ft.; hole heaved to 5,946 ft.; prepare to test at 6,890 ft.

H. M. Smith et al No. 2 Wadsworth, Lot 33, Blk. 4, S. R. Fisher Sur. T.D. 1,300 ft.; 13¾-in. csg. set 1,290 ft.; S.D.

Sun Oil Co. No. 1 Craig, Thomas Williams Sur. T.D. 5,999 ft.; cmtd. back from 5,-405-5,231 ft.

Montgomery County

Chapman and Smith No. 1 Delta Land & Timber Co., T. Shepperd Sur. No. A-486. S.D. 2,661 ft.

Chapman & Smith No. 2 Delta Land & Timber Co., T. Shepherd Sur. S.D. 2,-668 ft.

Polk County

J. P. Lightfoot et al No. 1 Lynch Davidson, Houston County School Land Sur., Abst. No. 270. Drlg. sh. and shells 2,-882 ft.

Washington County

W. D. Twichell et al No. 1 W. H. Hoxie, S. Clampit Sur. Drlg. sh. 2,000 ft.

Wharton County

Pure Oil Co. No. 1 Paige, James Pirie Sur. Drlg. sh. 8,276 ft.

Sterling O. & R. Co. No. 1 Agnes Genger, J. Scott Sur. Cmtd. sur. csg. 730 ft.; S.D.

S. W. TEXAS WILDCATS

Atascosa County

Atascosa Trust No. 1 Domsch, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. 1,222. Cg. 2,742 ft.

Bastrop County

G. E. Holstrom No. 1 Brundidge, E. Harris Sur. D.&A. 2,483 ft.

Marts & Beavens No. 4 Riddle, 800 ft. W line, 600 ft. S line tr., Maxmillian Sur. Drlg. 2,274 ft.

Bee County

Marine Oil Co. No. 1 Hearn, 2,000 ft. E No. 1 Words, E. Ryan Sur. T.D. 5,935 ft.; pulling screen and lnr.

H. A. Pressey No. 1 Hicks, 1,450 ft. of S line, 150 ft. of W line, lease, J. Uranga grant. Drlg. 2,630 ft.

Bexar County

J. Dupree No. 1 Coffey, Rodrigues Sur. T.D. 1,200 ft.; reworking.

Joe Deupree No. 1 Winters, F. Roderigues Sur. Drlg. 931 ft.

H. A. Pagenkopf No. 1 Ritteman, 2,500 ft. E line, 500 ft. N line, C. Texada Sur. D.&A. 2,308 ft.

H. V. Schumaker No. 1 Gillette, 465 ft. White road, 235 ft. N line, 49-ac. tract, de Alamiz Sur. No. 20. Drlg. 537 ft.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lease, B. Garcia tract, Salnias Sur. Cg. 5,281 ft.

Burleson County

Walter Blumenthal No. 1 Crane, W. C. Pierce Sur. No. 297. T.D. 6,328 ft.; tested 130 ft. mud; 120 ft. S.W.

Caldwell County

Louis Crouch No. 1 Starcke, C. Crenshaw Sur. Comp.; 20 B.P.D.; T.D. 1,303 ft.

Dewitt County

Universal Oil, Gas & Mining Co. No. 1 Schnebel, 330 ft. S and W lines tr., Fitzgerald Sur. Testing 1,185 ft.

Duval County

C. G. Glasscock No. 1 Milano Land & Garden Co., Sur. 87. Set sur. csg. 47 ft.; W.O.C.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250. Drlg. 4,510 ft.

Hamil & Smith No. 1 Hubbard, sec. 69. Spudded in.

Howard Pet. Co. No. 1 Ruiz, 2,640 ft. NW line, 660 ft. NE line, Sur. 13. D.&A. 3,505 ft.

Kepley Prod. Co. No. 1 Sevier, 330 ft. S line, 1,320 ft. E line, Sur. 71. Spudded in.

Magnolia Pet. Co. No. 1 Gray ranch, 320 ft. S and E lines, Sur. 556. R.U.; W.O. wtr.

Midland Oil Co. No. 1 Tinney, Sur. 8. Drlg. 1,230 ft.

Stanolind O. & G. Co. No. 3 Farmers Life Ins. Co., 330 ft. S and E lines, Sur. 559. Drlg. 1,385 ft.

Edwards County

Paul Teas No. 1 Stewart, C SE¼ sec. 2, G.C.&S.F. Sur. Drlg. sh. 2,962 ft.

Goliad County

Cotton Belt O. & G. Co. No. 1 Lutenbacher, 330 ft. S and W lines, Blk. 25, Goliad townsite. Tried to blow out; stdg. with weighted mud in hole; T.D. 4,550 ft.

Magnolia Pet. Co. No. 1 Tipton, 330 ft. SE and SW lines, Thorman Sur. Set sur. csg 259 ft.; W.O.C.

Guadalupe County

Paul Armstrong and J. E. Clark No. 1 Brodnaux, 150 ft. SE cor. 36-ac. tr., King Sur. Drlg. 2,380 ft.

Hidalgo County

Gerald O. & G. Co. No. 1 Nelson Mortgage Co., Blk. 38, Lot A, La Donna Tr. S.D. 320 ft.; W.O. rig.

Gulf States Oil Co. No. 1 Delta Orchards, 580 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Mestanas grant. T.D. 6,-808 ft.; D.&A.

Gulf States Oil Co. No. 2 John Engleman, Lot 3, Blk. 70. Spudded in.

Maxwell-Mundy No. 1 Hid. Wtr. Dist. No. 2, Lot 11, Blk. 20, Alamo Tr. Sd. 652-60 ft.; set csg. 670 ft.

Quintana Petroleum Co. No. 1 John C. Engleman, Lot 10, Blk. 94, Las Mestanas grant. Rmg. 6,734 ft.

Dayle Smith No. 1 Fairbanks & Young, Blk. 44, Por. 46, jurisdiction of Reynosa. T.D. 1,800 ft.; stdg.

Jim Hogg County

French Oil Co. No. 2 Rodriguez, Sh. 3, Sur. 579, El Reyoto grant. R.U.

S. L. Miller No. 2 Yeager, 777 ft. S line, 150 ft. E line, Blk. 6, Sur. 20. Spudded in; S.D.

Jim Wells County

O. W. Killam No. 1 Reynolds, C S half Sur. 28. Drlg. 2,842 ft.

Muskogee Iron Works No. 1 Owens, 620 ft. N line, midway E and W lines, Sur. 151. Spudded.

G. M. Richardson No. 1 Garrett, 1,980 ft. S line, 1,640 ft. E line, sec. 5. Drlg. 3,935 ft.

Texon Roy. Co. and Lucey No. 1 Roleton, 330 ft. N and W lines, sec. 17, King Farm Lots. Drlg. 4,653 ft.

Karnes County

DeGraffe & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell League. R.U.

Kerr County

Eastland Oil Co. No. 7 Love, 660 ft. N Evans & Gant No. 1 Love, Martines Sur.

No 1,594. Cmtng. off cavity; T.D. 1,-350 ft.

LaSalle County

Davenport & Talbott No. 1 Watkins, 1,-610 ft. S line, 330 ft. E line, Sur. 103. Drlg. 220 ft

Paul Meader No. 1 Reed, sec. 136. R.U.

Live Oak County

W. A. Brooks No. 1 Terrill, 1,000 ft. NE R.R., 1,500 ft. S line lse., Juan Houligan Sur. Drlg. 421 ft.

Dirks Bros. No. 1 Dougherty, 330 ft. NW line, 960 ft. NE line. 320-ac. tract Beagle Sur. D.&A. 5,400 ft.

R. H. Feltner No. 1 J. T. Carter, 1,847 ft. NW line, 350 ft. NE line, 120-ac. tract. sec. 319. Rmg. 3,177 ft.

McMullen County

Darby Pet. Corp. No. 3-B Hagist, 330 ft. S line, 990 ft. W line, Sur. 187. D.&A. 1,892 ft.

F. Dayvault No. 1 Matula, 150 ft. S line, 2,462 ft. E line tr., Jas. Garner Sur. T.D. 1,023 ft.; M.I.M.

R. J. Hill No. 1 Richardson, Sur. 158, Set sur. csg.; drlg. 242 ft.

Magnolia Pet. Co. No. 2 Kincaid, 330 ft. S and E lines, Sur. 86. Set. sur. csg. 242 ft.; W.O.C.

Reliance Oil & Roy. Co. No. 2 Shiner, 160 ft. N and E lines, SE¼, sec. 40. Drlg. 120 ft.

V. G. Schimmell No. 3 Two Rivers ranch. 330 ft. S and W lines, Sur. 53. M.I.M.

Whisenant & Trenchard No. 1 Roos Bros., C SE¼ SE, Sur. 93. Cg. 2,515 ft.

Nueces County

Allen & McCormick No. 1 McBurnett, 660 ft. N line, 330 ft. E line, Lot 2, Robert Shallert ranch. D.&A. 5,048 ft.

A. D. Cargray No. 2 Baldwin, 330 ft. N line, 550 ft. E line, Blk. 21, sec. 51. Drlg. 3,763 ft.

Coker & Lee Bros. No. 1 Geistman, 330 ft. N line, 660 ft. W line, 60-ac. tract, J. R. Ward Sur. No. 316. Sd. 3,161-65 ft.; sd. 3,160-65 ft.; tested 450 ft. oil and 100 ft. mud in 10 min.

M. F. Hurlburt No. 1 Phillips, sec. 8, Flour Bluff Garden Tr. S.D. 2,983 ft.

La Jita Oil Corp. No. 2 King, 660 ft. N and W lines, sec. 24. Drlg. 3,383 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1 Cooke, 990 ft. N line, 330 ft. W line, sec. 14. Drlg. 3,950 ft.

San Patricio County

Benedum & Trees Oil Co. No. 1 Jones, 1,650 ft. E line, 990 ft. S line, NW¼ sec. 65. Drlg. 3,954 ft.

Benedum & Trees Oil Co. No. 2 Welder, sec. 19. Sd. 5,696-5,710 ft.; tested 200 ft. oil; 100 ft. mud in 4 min.; set screen and lnr.

Portillo Oil Co. No. 1 Welder, 2,000 ft. N and W lines, sec. 37. Drlg. 827 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 4 Welder, 2,300 ft. SE line, 1,791 ft. NE line, 1,256-ac. tract, Villareal Sur. Drlg. 5,335 ft.

Willis Storm No. 1 Nancy Hobbs, 622 ft. NW and SW lines, 30-ac. tr. Fsg. 4,256 ft.

Starr County

O. C. Borah No. 1 V. C. de Guerra, 3,500 ft. N line, 2,000 ft. E line, Sh. 92, Porc. 68. Drlg. 760 ft.

J. H. Clopton No. 3 Kelsey-Bass, sec. 357. T.D. 700 ft.; S.D.

Coreta Oil Co. No. 1 Haden, Share 47, Porc. 80. Drlg. 2,150 ft.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft NE line, 1,170 ft. SE line, Blk. 13, Sur 1,453. No report.

Mills Bennett Prod. Co. No. 1 Moglia, Sur 723. Set sur. csg.; W.O.C.

Willacy County

Shell Pet. Corp. No. 1 Yturria Land & Cattle Co., 990 ft. S and E lines, Share 64, San Juan de Carricitos grant. S.D. 2,385 ft.

Zapata County

Ivan Howard No. 1 Martinez, 4,950 ft. SW line, 330 ft. NW line, Blk. 5, Sur. 294. Drlg. 1,263 ft.

J. J. O'Horo's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk 5, Share F Porc. 27. T.D. 2,658 ft.; D.&A.

Oklahoma Co. No. 1 Sanchez, Sh. 9, Blk. 37, Sanchez ranch. M.I.M.

Zavalla County

W. L. Bridges No. 1 Price & Flowers, 1,-320 ft. N and W lines, Blk. 1, sec. 19. Set sur. csg. 360 ft.; W.O.C.

Leona Oil Co. and Witherspoon Oil Co. No. 1 West, 330 ft. E line, midway N and S lines, sec. 1, Bustillo Sur. Drlg. 3,485 ft.

S. W. TEXAS PROVEN

Dirks—Bee County

Devonian Oil Co. No. 4 Young, O'Brien Sur. Sd. 2,762-3,821 ft.; comp.; no gauge; T.D. 3,824 ft.

Sun Oil Co. No. 6 Page, 330 ft. SE line, 630 ft. NE line, Young Sur. R.U.

Texas Co. No. 15 Young, Butler Sur. Set csg. 3,910 ft.; W.O.C.

Pettus—Bee County

United Prod. Co. No. 52 Ray, T. Hanson Sur. Drlg. 2,785 ft.

Plummer—Bee County

C. Echols No. 1 Plummer, 391 ft. SW line, 150 ft. SE line, F. J. Chessman Sur. D.&A. 3,030 ft.

Ray—Bee County

California Co. No. 1 Boothe, 330 ft. S and E lines, 100-ac. tr., Walker Sur. Spudded in; set sur. csg.

Duncan & Perkins No. 2-A Campbell, B.& B. Sur. Comp.; no gauge; T.D. 3,780 ft.

Magnolia Pet. Co. No. 1 Booth, W. B. Blanchard Sur. Drlg. 4,144 ft.

Sunburst Oil Co. No. 2 Boothe, 660 ft. W of No. 1, 150 ft. NE line tr. Drlg. 2,-710 ft.

Dale—Caldwell County

Ogden & Reed No. 3 Vickery, 550 ft. NE line, S. Damon Sur. T.D. 1,923 ft.; D.&A.

Salt Flat—Caldwell County

Witherspoon Oil Co. No. 1 Tiller, 175 ft N and W lines tr., G. Hinds Sur. T.D. 2,596 ft.; comp.; no gauge.

Eagle Hill—Duval County

Marzo Oil Co. No. 2 Hagist, 480 ft. E of No. 1, Sur. 6. T.D. 2,290 ft.; D.&A.

Government Wells Pool—Duval County

Central Producers, Inc., No. 3 Luptack, 150 ft. S line, 990 ft. E line, Sur. 41. Comp.; 10,000,000 ft. gas; T.D. 2,299 ft.

Hoffman—Duval County

Duval Oil Corp. No. 2 Ruiz, 330 ft. S and W lines, Sur. 119. Cg. to 2,881 ft.

Hamill & Smith No. 1 B.C.C., 330 ft. N and E lines, NW¼ NE¼ Sur. 70. D.&A.; T.D. 3,110 ft.

W. D. Maston No. 1 Ruiz, Sur. 123. Set sur. csg.; W.O.C.

Plymouth Oil Co. No. 2 Cuellar, 330 ft. NW and NE lines tr., Sur. 117. T.D. 2,-885 ft.; testing.

Rogers & Rogers No. 2 Sutherland, 1,070 ft. S and E lines, E½ Sur. 120. Cg. 2,-330 ft.

Rogers & Rogers Drlg. Co. No. 2 Hoffman, 330 ft. E line, 1,698.5 ft. S line, 640-ac. tr., Sur. 118. T.D. 3,605 ft.; P.B. 2,738-54 ft.; comp. as gasser; no gauge.

Standard Oil Co. of Kansas, 330 ft. SW of N line, 50-ac. tr., Sur. 115. Setting csg. on sd.

Loma Novia—Duval County

Bridwell Oil Co. No. 8 B.C.C., 330 ft. W line, 990 ft. S line, SW¼, Sur. 76. Sd. 2,626-45 ft.; comp.; 22 B.P.H. on ½-in. choke.

Bridwell Oil Co. No. 15 B.C.C., Sur. 76. Comp.; no gauge.

Bridwell Oil Co. No. 16 B.C.C., 660 ft. N of No. 15, 120-ac. tr., Sur. 76. Drlg. 1,022 ft.

Bridwell Oil Co. No. 2-C Hubbard, 330 ft. N and E lines, SW¼, Sur. 75. T.D. 2,-539 ft.; comp.; 78 B.P.D.

Bridwell Oil Co. No. 3-C Hubbard, 330 ft. S and E lines, NW¼, Sur. 75. Testing 2,603 ft.

Bridwell Oil Co. No. 13-C Hubbard, 330 ft. N and W lines, Sur. 75. Sd. 2,534-2,600 ft.; testing.

Bridwell Oil Co. No. 14-C Hubbard, 660 ft. S of No. 13-C, Sur. 75. Skidding on.

Duval Oil Corp. No. 15 B.C.C., 660 ft. N and E lines, N½, S½, Sur. 59. Sd. 2,537-52 ft.; comp.; 22 B.P.H. on ½-in. choke.

Duval Oil Corp. No. 16 B.C.C., Sur. 59. Comp.; 10 B.P.H.; sd. 2,523-37 ft.

Duval Oil Corp. No. 17 B.C.C., Sur. 59. Set csg. on sd.; W.O.C.

Duval Oil Corp. No. 18 B.C.C., Sur. 59. Set csg. on sd.; W.O.C.

Frank Gravis No. 2 Flodin, Sur. 78. T.D. 2,549 ft.; comp.; 75 B.P.D. on pump.

Frank Gravis No. 4 Flodin, Sur. 78. M.I.M.

Highland Oil Co. No. 7 Hubbard, 330 ft. S and W lines, SE¼, Sur. 75. Drlg. 1,-725 ft.

Highland Oil Co. No. 15 Hubbard, Sur. 75. Testing 2,712 ft.

Highland Oil Co. No. 16 Hubbard, W½, Sur. 72. Sd. 2,726-42 ft.; comp.; 11 B. P.H. on ½-in. choke; T.D. 2,742 ft.

Highland Oil Co. No. 17 Hubbard, 990 ft. W line, 1,650 ft. N line, W½ Sur. 72. Sd. 2,746-51 ft.; comp.; no gauge.

Highland Oil Co. No. 28 Hubbard, W½, Sur. 72. Sd. 2,724-31 ft.; comp.; 15 B. P.H. on ½-in. choke; T.D. 2,746 ft.

Humble O. & R. Co. No. 9-A Hubbard, Sur. 84. Set csg.; T.D. 2,834 ft.; W.O. pump.

Humble O. & R. Co. No. 10-A Hubbard, Sur. 84. Drlg. 1,350 ft.

Humble O. & R. Co. No. 6-B Hubbard, 990 ft. N and E lines, Sur. 83. T.D. 2,-732 ft.; cleaning in pits.

Humble O. & R. Co. No. 7-C Hubbard, Sur. 72. T.D. 2,712 ft.; W.O. pump.

Humble O. & R. Co. No. 8-C Welder, Sur. 554. Set sur. csg.; W.O.C. 300 ft.

Humble O. & R. Co. No. 14-B Hubbard, 272 ft. W line, 330 ft. N line, E½, Sur. 72. Set csg. 2,710 ft.; W.O.C.

Kaffie Lbr. Co. No. 1 M. H. Davidson, Sur. 114. Sd. 2,544-55 ft.; comp. on pump; 50 P.B.D.; T.D. 2,560 ft.

Magnolia Pet. Co. No. 24 Hahl, Sur. 67. Rng. tbg. 2,119 ft.

Magnolia Pet. Co. No. 27 Hahl, Sur. 67. Sd. 2,644-49 ft.; W.O.C.

Montour Oil Co. No. 8 Hubbard, Sur. 75. Comp. on pump; 75 B.P.D.; T.D. 2,-624 ft.

Hiram Reed and J. T. Stover No. 1 C. W. Duke, 330 ft. N and E lines, SE¼ SE¼ Sur. 64. Cg. 2,462 ft.

Reynosa Oil Co. No. 1 Hubbard, Sur. 75. Sd. 2,549-72 ft.; set csg.; W.O.C.

Rosan Texia Oil Co. No. 13 Hubbard, 810 ft. W line, 330 ft. N line, S½, Sur. 84. No report.

Ross Pet. Co. No. 7-D Hahl, 330 ft. E line, 990 ft. S line, NE¼ Sur. 62. Comp.; 50,000 ft. gas; T.D. 2,567 ft.

Shell Pet. Corp. No. 21 Hubbard, Sur. 77. Set csg. 2,734 ft.; W.O.C.

Shell Pet. Corp. No. 2 Mendoza, 704 ft. N of No. 1, 330 ft. W line tr., Sur. 68. Comp.; 25.67 B.P.H. then went dead; T.D. 2,796 ft.

Shell Pet. Corp. No. 3 Mendoza, 704 ft. N of No. 2, 330 ft. W line, Sur. 68. Set sur. csg. 49 ft.; W.O.C.

Texas Co. No. 12 B.C.C., 990 ft. E line, 330 ft. S line, N½ sec. 59. Stdg. 1,863 ft.

Texas Co. No. 21 Wendt, 330 ft. N line, 3,481 ft. W line, Sur. 68. T.D. 2,726 ft.; making gas and spray oil.

Texas Co. No. 27 Wendt, Sur. 68. Sd. 2,-707-22 ft.; W.O.C.

Texas Co. No. 31 Wendt, 1,176 ft. S line, 2,778 ft. E line tr., Sur. 68. Testing 2,-707 ft.

Texas Co. No. 32 Wendt, Sur. 68. Sd. 2,-686-2,707 ft.; W.O.C.

Valley Osage Oil Co. No. 7 Hubbard, Sur. 75. Sd. 2,590-2,601 ft.; testing.

Piedra Lumbre—Duval County

Texas Co. No. 15 D.C.R.C., 330 ft. S line, 990 ft. E line, SW¼, Sur. 100. Drlg. 1,827 ft.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 2-D Welder, 660 ft. W No. 1, 330 ft. E line, Sur. 113. Sd. 2,490-2,505 ft.; set csg.; W.O.C.

Atlantic Oil Prod. Co. No. 3-D Welder, 660 ft. SW No. 1, 330 ft. N line, Sur. 113. Sd. 2,495-2,509 ft.; comp.; 18 B.P. H.; T.D. 2,509 ft.

Buchanan & Blanco Oil Co. No. 11 Welder, 330 ft. E line, 915 ft. S line, E½ SW¼ Sur. 385. Sd. 2,195-2,211 ft.; comp.; 8 B.P.H. on ¼-in. choke; T.D. 2,211 ft.

Buchanan & Blanco Oil Co. No. 1-B Welder, 330 ft. N and W lines tr., Sur. 591. Skidding on.

Diamond Halff Oil Co. No. 3 Serna, 990 ft. E line, 330 ft. S line, N½, NE¼, Sur. 384. Sd. 2,193-2,204 ft.; W.O.C.

Dulce Oil Co. and Henderson & Harvey No. 1-B Serna, Sur. 384. R.U.

Humble O. & R. Co. No. 2 Badgley, 330 ft. N line, 990 ft. W line, Sur. 307. Comp.; 28.26 B.P.H. on ¼-in. choke; T.D. 2,538 ft.

Humble O. & R. Co. No. 3 Badgley, Sur. 307. Skidding on.

Humble O. & R. Co. No. 6-B Serna, SE¼, Sur. 384. Comp.; 11.03 B.P.H. on ¼-in. choke; T.D. 2,503 ft.

Humble O. & R. Co. No. 7-B Serna, SE¼, Sur. 384. M.I.M.

Humble O. & R. Co. No. 13-B Serna, SE¼, Sur. 384. Cg. 2,472 ft.

Humble O. & R. Co. No. 7 Smith, 330 ft. S and E lines, Sur. 382. Comp.; no gauge; T.D. 2,469 ft.

Humble O. & R. Co. No. 8 T. D. Smith, Sur. 382. Set csg. 63 ft.; W.O.C.

Humble O. & R. Co. No. 9-A Serna, SW¼, Sur. 384. Comp.; no gauge; sd. 2,462-70 ft.

Mid-Continent Pet. Corp. No. 7 Serna, S½ N½, Sur. 384. Swbg. sd. 2,200-08 ft.

Navarro Oil Co. No. 1 Welder, 330 ft. E line, 2,970 ft. N line, Sur. 383. T.D. 2,-240 ft.; S.D. for wtr.

Parr Oil Co. No. 2 Welder, 990 ft. W line, 330 ft. N line, 80-ac. tr., Sur. 383. Drlg. 1,270 ft.

Reliance & Kleiner No. 3 Welder, 2,332 ft. E line, 330 ft. S line, S½, NE¼, Sur. 381. Cg. 2,263 ft.

Reliance Oil Co. No. 1-A Telford, 150 ft. N and W lines, NE 40-ac. tr., NW¼, Sur. 385. Set csg. on sd.; W.O.C.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1-B Welder, 330 ft. N and W of SE cor. Sur. 383. Comp.; 32.01 B.P.H. on ¼-in. choke; sd. 2,481-2,502 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 3-B Welder, Sur. 383. Drlg. 2,200 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 29 Welder, 330 ft. S and E lines, tr., Sur. 383. Sd. 2,448-72 ft.; comp.; no gauge.

Santa Clara Oil Co. (Atkins & O'Neil) No. 30 Welder, 330 ft. S line, 990 ft. E line tr., Sur. 383. Skidding on.

Santa Clara Oil Co. and H. H. Henderson No. 10-C Welder, 330 ft. N and E lines, SW¼, Sur. 381. Comp.; 10.64 B.P.H.

Santa Clara Oil Co. (Atkins & O'Neil) No. 9-D Welder, 330 ft. N and E lines, 25-ac. tr., Sur. 383. Drlg. 1,550 ft.

Shell Pet Corp. No. 2-B Welder, 330 ft. W line, 990 ft. W line, E½ SE¼ Sur. 385. Cg. 2,650 ft.

Shell Pet. Corp. No. 5 Welder, 330 ft. S and W lines, Sur. 385; Comp.; 6 B.P.H. on ¼-in. choke; T.D. 2,495 ft.

Westheimer & Daube No. 6 Campos, 330 ft. W line, 2,310 ft. S line, Sur. 224. Sd. 2,203-28 ft.; comp. 22 B.P.H.

Westheimer & Daube No. 7 Campos, 330 ft. W line, 2,970 ft. S line, Sur. 224. Sd. 2,202-21 ft.; testing.

Pearsall—Frio County

Amerada Pet. Corp. No. 1 Correy & McWilliams, 660 ft. N line, 721 ft. W line, Tr. 17, Manuel Tijerina Sur. No. 300. T.D. 5,676 ft.; shooting for comp.

Amerada Pet. Corp. No. 1 Correy & McWilliams, 1,980 ft. S line, 746 ft. W line, Tr. 2, Jose Arocha Sur. No. 299. Drlg. clk. 5,555 ft.

Amerada Pet. Corp. No. 1 Correy & McWilliams, 660 ft. S line, 728 ft. E line, sh. and shell 4,019 ft.

Amerada Pet. Corp. No. 7 Halff & Oppenheimer, 1,320 ft. W line, 330 ft. S line, J. H. Gibson Sur. No. 16. Drlg. sh. and shell 3,530 ft.

Amerada Pet. Corp. No. 1 Kothman, 500 ft. N and W lines, B. L. Crouch Sur. No. 90/6. T.D. 5,407 ft.; bailing at 4,-500 ft.

T. Davis No. 1 Halff & Oppenheimer, 329-ac. tract, J. D. Clare Sur. 366½. Top chalk 5,330 ft.; drlg. 5,420 ft.

Gillette—Goliad County

Diamond Halff Oil Co. No. 2 Gillette, J. Gomez Sur. Drlg. 1,021 ft.

Magnolia Pet. Co. No. 1 Porter, 512 ft. NE line, 330 ft. SE line, 142-ac. tract, Myers Sur. No. 26. T.D. 4,660 ft.; D.&A.

Zobrowlski-Guadalupe County

W. J. Walton No. 5 Zobrowlski, 1,000 ft. SE No. 3, Clements Sur. No report.

Clark—Guadalupe County

Eickenroht & Gallagher No. 1 Johns, 130 ft. E line, 450 ft. N line, 840-ac. tr., DeWitt Sur. 13. Drlg. 2,237 ft.

Ramona Oil Co. No. 1 Katie Say, 150 ft. W line, Davis Sur., 150 ft. S line lease. T.D. 2,407 ft.; swbg.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1, Farm, Tr. 2,309, Blk. 59. T.D. 7,530 ft.; to perforate.

Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines, Tr. 2,120, Blk. 87. Fsg. at 7,300 ft.

Union Sulphur Co. No. 9 American Rio Grande L. & I. Co., Farm Tr. 2,275, Blk. 59. Drlg. 1,120 ft.

Samfordyce—Hidalgo County

James H. Anderson No. 3 Guerra, Tr. 254, Porc. 40. Drlg. sh. 2,042 ft.

J. T. Barlow No. 1 Marta Flores de Chapa, 230 ft. W line, 692 ft. S line, Tr. 250, Porc. 39. Sd. 2,951.5-55 ft.; D.S. T. 66 ft. P.L.O.; set csg. 2,951.5 ft.; W.O.C.

Dean Bros. No. 1 Lula George, 150 ft. S line, 230 ft. W line. 10-ac. tract. Tract 13, Porc. 40. S.D. for wtr. 1,520 ft.

E. A. Graham No. 1 Eusebio Flores, 330 ft. S line, midway E and W lines, 26.43-ac. tr., Tr. 267, Porc. 38. Sd. 2,793-97 ft.; set csg. 2,793 ft.; W.O.C.

Henshaw Bros. No. 1 Seabury, Tr. 256, Porc. 58. R.U.

Frank Powell No. 1 George, Tr. 13, Porc. 41. Sd. 2,752-63 ft.; set csg.; W.O.C.

Weekly Oil Co. No. 1-B Guerra, 150 ft. S line, 230 ft. E line, 9.85-ac. tr., Tr. 12, Porc. 41. Sd. 2,765-72 ft.; set csg.; W. O.C.

San Diego—Jim Wells County

Houston Oil Co. No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11. Cg. 6,245 ft.

Calliham—McMullen County

Agarita Oil Co. No. 2-C Lark, 310 ft. S No. 1, 155 ft. W line, Blk. 56, Scrugham Sur. T.D. 985 ft.; comp.; 75 B.P.D.

Chas. Hall No. 2 Claunch, 400 ft. SE No. Hely Sur. T.D. 967 ft.; bailed dry; W.O. orders.

Luray Oil Co. No. 9 Glass, 160 ft. S Frio River, 520 ft. E line, Blk. 14, Hely Sur. T.D. 728 ft.; comp.; 10 B.P.D. on pump.

Swearingen et al No. 1 Calliham, 150 ft. N line, 275 ft. E line, Blk. 17, M. Hely Sur. Drlg. 742 ft.

Jacob—McMullen County

Loma Oil Co. No. 105-A Jacob, 220 ft. E line tract, 660 ft. N No. 1-F Jacob. T.D. 977 ft.; comp. on pump; no gauge.

Saxet Heights—Nueces County

Aaron Cohen No. 1 fee, 14/8-ac. tr. W.O. C. 4,085 ft.

S. H. Bartlett No. 1 Harry Bartlett, 120 ft. W line, 200 ft. N line, 1.75-ac. tr., Villareal Sur. Tested S.W.; reeming.; T.D. 4,080 ft.

Conroe Drlg. Co. No. 1 John Dunn, 330 ft. S line, midway E and W lines, tr., Villareal Sur. Comp.; 400 B.P.D. on ¼-in. choke; T.D. 4,093 ft.

Conroe Drlg. Co. No. 2 Hatch, 330 ft. W line, 990 ft. N line, 40-ac. tr. Testing 4,095-98 ft.

Culton & Republic Nat. Gas Co. No. 1-C Baldwin, 330 ft. N and W lines, Blk. 13. Cg. 6,151 ft.

J. K. Culton No. 2 Savage, 150 ft. N and W lines, 4-ac. tr. T.D. 4,084 ft.; C.O.

Erin Oil Co. and J. H. Coker No. 1 Powell, Blk. 2, Ellendale Gardens No. 3. Set csg. 4,071 ft.; W.O.C.

Erin Oil Co. and J. H. Coker, No. 1 Powell, Blk. 2, Ellendale Gardens No. 3. Set csg. 4,071 ft.; W.O.C.

J. T. Graham No. 1 Phillips, 200 ft. W line, 104 ft. N line tr. Sd. 4,072-79 ft.; W.O.C.

Tom Graham No. 1 Whelan, 330 ft. N and E lines, 40-ac. tr., Villareal Sur. T.D. 5,254 ft.; P.B. 3,700 ft.; to test.

D. H. Hawn No. 1 Hoxie, 1,200 ft. N of No. 1 Skipper. T.D. 4,127 ft.; S.D.

Johnson et al No. 1 Cowles, 160 ft. W line, 75 ft. S line tr. Drlg. 2,717 ft.

Johnson et al No. 1 Pearson, Villareal Sur. Cd. gas sd. 4,058 ft.

Ray Johnson et al No. 1 Pearson, 2-ac. tr., Ellendale Gardens No. 2. Cg. 4,068 ft.

Ray Johnson No. 1 Smith, 3-ac. tr., Bancroft farm lots. Set sur. csg.; W.O.C.

Marine Oil Co. No. 1 Kaler, 250 ft. N line, 150 ft. W line, 13.05-ac. tract, Villareal Sur. Set sur. csg.; W.O.C.

Marine Oil Co. No. 2 Worley, 250 ft. N and E lines, 14.92-ac. tr. Sd. 4,067-81 ft.; comp.; no gauge.

J. P. Nash No. 1 Hatch, 330 ft. E line, 360 ft. N line tr., Blk. F, Top sd. 5,173 ft.; S.O.&G.; cg. 5,177 ft.

Republic Nat. Gas Co. No. 4-B Baldwin, 44-ac. tr., Villareal Sur. Set csg. 4,080 ft.; W.O.C.

Southern Minerals Corp. No. 1 Alkali, 330 ft. S line, 243 ft. E line, Southern Alkali Corp. site. T.D. 4,076 ft.; comp.

Southern Minerals Corp. No. 2 Alkali, 660 ft. N of No. 1, midway E and W lines of tr. Drlg. 1,721 ft.

W. F. Stone No. 1 Schleicher, Villareal Sur. Comp.; 8 B.P.H. on 5/32-in. choke; T.D. 4,086 ft.

Taylor Ref. Co. No. 1 Brennan, 150 ft. E line, 330 ft. S line, 14-ac. tr. T.D. 4,084 ft.; comp.; no gauge.

Taylor Ref. Co. No. 1 Saunders, Villareal Sur. T.D. 4,086 ft.; cleaning in plts.

J. Parker Thompson No. 1 Powell, Blk. 2, Ellendale Gardens No. 3. M.I.M.

W. A. R. Oil Co. No. 1 John Dunn, 8-ac. tr., N of old Shell Road. Set csg. on sd. 4,044-89 ft.; W.O.C.

Westgate Oil Co. No. 1 Carver, cen. Tract No. 3, Ellendale Gardens. Drlg. 2,032 ft.

Saxet—Nueces County

R. B. Bryan No. 1 Clarkwood Townsite, 105 ft. S line, 190 ft. W line tract, Blk. 14, Land Sur. 404. Set csg. 995 ft.; W. O.C.

Capitol Oil Co. No. 1 Clarkwood, 130 ft. N and E lines, Blk. 2, Clarkwood Townsite. Sd. 4,396-4,409 ft.; comp.; no gauge.

Tom Graham No. 2 Flato, Blk. 30. Drlg. 3,970 ft.

Houston Oil Co. No. 3 Harrell, 330 ft. S and E line, Blk. 19, Farm Lots 576. Set surface csg.; W.O.C.

Houston Oil Co. No. 9 Rand Morgan, 330 ft. W line, 1,028 ft. N line, sec. 7, Rincon del Oso Sur. Recmtng. 4,867 ft.

Maryland O. & G. Co. No. 1 Winship, cen. Lot 3. T.D. 4,393 ft.; drlg. plugs.

Morgan Gulf Oil Co. No. 2 Morgan, 990 ft. N and E lines, Sur. 403. Drlg. 4,080 ft.

Republic Nat. Gas Co. No. 1-B Baldwin, 660 ft. S No. 3, 44-ac. tr. Drlg. 1,257 ft.

W. A. Richardson No. 2 Meredith, Lot 11, Clarkewood townsite. T.D. 4,423 ft.; washing in.

W. A. Richardson No. 1 Smith, C Blk. 4, Clarkewood townsite. Spudded in.

Southern Minerals Corp. No. 3 Isensee, 136-ac. tr., C. Land Sur., No. A-976. Drlg. 1,553 ft.

Southern Mineral Corp. No. 2 Smith, Blk. 4, Sheppard Farm Lots. T.D. 4,862 ft.; swbg.

Texon Royalty Co. No. 1 Scogins, 330 ft. W line, 110 ft. N line, 150-ac. tr., Sur. A-818. Testing sd. 4,409-14 ft.

Texon Royalty Co. No. 1 Vance, 100 ft. N and E lines, 100-ac. tr., Gallagher Sur. 402. Cg. 1,425 ft.

Plymouth—San Patricio County

Humble O. & R. Co. No. 1 Bevly, 466 ft. N and W lines tr., Blk. 8, sec. 35, Taft Subd. M.I.M.

Magnolia Pet. Co. No. 6 Corpus Christi Land Bank, 250 ft. E line lease, 933 ft. SW. No. 5, Hunter Sur. Comp.; 3.3 B. P.H. on ¼-in. choke; T.D. 5,895 ft.

Plymouth Oil Co. No. 38-C Welder, 3,978 ft. S line, 2,395 ft. W line, sec. 49. Set csg. 5,634 ft.; W.O.C.

Plymouth Oil Co. No. 39-C Welder, 460.4 ft. S line, 1,770 ft. E line, sec. 71. Drlg. sh. 5,460 ft.

Plymouth Oil Co. No. 40-C Welder, 1,472 ft. W line. 3,119 ft. S line, sec. 49. Drlg. sdy. sh. 5,450 ft.

Plymouth Oil Co. No. 41-C Welder, 4,027 ft. S line, 1,244 ft. W line, sec. 49. Drlg. sh. 4,050 ft.

Plymouth Oil Co. No. 42-C Welder, 2,932 ft. N line, 2,043 ft. E line, sec. 49. Drlg. sd. and sh. 600 ft.

Sun Oil Co. No. 4 Hunt, 466 ft. S and W lines, 154.39-ac. tr. Set sur. csg. 364 ft.; W.O.C.

Taft Field—San Patricio County

Humble O. & R. Co. No. 1 Godwin, 330 ft. S and W lines, sec. 23, Taft, Farm Lands, Third Addn. D.S.T. 2,998 ft.; 3,500 ft. oil and 150 ft. mud; 25 min.; well flowed 75-90% S.W.; P.B. again.

Shell Pet. Corp. No. 1 Pullin, Blk. 4, sec. Drlg. 2,388 ft.

Rio Grande City—Starr County

Fech Oil Co. No. 7 Frank Doyno, 150 ft. W line, 450 ft. N line, Blk. 4, Tr. 77-A, Porc. 81. Drlg. 1,025 ft.

Samfordyce—Starr County

Phillips and Barnsdall No. 3 Yturrice L. & S. Co., 110-ac. tr., E½ Porc. 100. Drlg. 2,121 ft.

Aviator—Webb County

Five Spot Drlg. Co. No. 1 Bruni, Blk. 44, Albercas grant. Spudded in.

Blas Uribe—Webb County

O. W. Killam No. 7 Bruni, Borrego grant. Sd. 1,106-12 ft.; dry; S.D. 1,112 ft.

Carolina-Texas—Webb County

Foster Barnsby No. 5 Webster, Sur. 884. Swbg.; T.D. 3,047 ft.

Cole—Webb County

Cole Pet. Co. No. 95 Rosa Benavides, Blk. 7, Sur. 7. P.B. 2,935-53 ft.; sd. tested gas.

Lopez—Webb County

Hunter Co. No. 4 A. S. Billings, 990 ft. E line, 330 ft. N line, S½, NE¼, Sur. 113. Sd. 2,125-48 ft.; comp.; 5 B.P.H.; T.D. 2,151 ft.

Hunter Co. No. 6 Billings, Sur. 113. Drlg. 1,823 ft.

C. H. Lewis No. 5 Lopez, sec. 110. Sd. 2,241-52 ft.; testing.

Mills Bennett Prod. Co. No. 3 Montemayor, 2,310 ft. W line, 2,042 ft. N line, Sur. 114. Drlg. 1,832 ft.

Mills Bennett Prod. Co. No. 8 Montemayor, Sur. 114. Comp.; 22 B.P.H.; sd. 2,169-79 ft.

Mills Bennett Prod. Co. No. 2 A. Lopez, Sur. 111. Sd. 2,232-44 ft.; comp.; 520 B.P.D.

Mills Bennett Prod. Co. No. 4 A. Lopez, Sur. 111. Drlg. 417 ft.

Luling O. & G. Co. No. 1 Peal, 330 ft. S and E lines, Blk. 11, Sur. 72. Cg. for sd. 2,200 ft.

G. G. Mortimer No. 9 Maria Lopez, Sur. 112. Drlg. 1,209 ft.

G. G. Mortimer No. 3 Paula Vela, Sur. 114. Comp.; 16 B.P.H.; sd. 2,183-94 ft.

Superior Oil Co. No. 4 A. S. Billings, Sur. 113. Sd. 2,125-48 ft.; W.O.C.

Superior Oil Co. No. 7 A. S. Billings, Sur. 113. Drlg. 2,010 ft.

O'Hern—Webb County

Hamil & Smith No. 1 Bruni, 330 ft. N and W lines, Sur. 2,213. Drlg. 2,933 ft.

Magnolia Pet. Co. No. 4 J. Benavides, Blk. 321. Sd. 2,807-14 ft.; set csg.; W.O.C.

Magnolia Pet. Co. No. 7-B Benavides, Blk. 323. Sd. 2,795-2,807 ft.; set csg.; W.O.C.

T. S. Reid No. 1 Benavides, Blk. 319. Stdg. 1,540 ft.; W.O. wtr.

Texas Co. No. 14 Benavides, Blk. 424. Sd. 2,793-2,805 ft.; testing.

Texla Oil Corp. No. 1 Benavides, Blk. 170. R.U.

Escobas—Zapata County

B. W. Roscoe No. 4 Bustamante, Share 33. Drlg. 623 ft.

Locke Purnell No. 1 M. Garza heirs, 185 ft. NE line, 196 ft. NW line, Blk. 14, Zorro ranch. T.D. 1,617 ft.; stdg.

Texas Co. No. 56 Whitehead, 25,816 ft. SW line, 11,992 ft. SE line, Cerrito Blanco grant. Sd. 1,243-60 ft.; comp.; 11 B.P.H.; gas-lift.

Haynes—Zapata County

Clover O. & G. Co. No. 11 Haynes, 1,000 ft. SW line, 1,450 ft. NW line, Blk. 7. Sd. 893-909 ft.; rmg. to set csg.

South Texas Oil Co. No. 1 fee, 330 ft. N and W lines, Blk. 21, Sur. 768. T.D. 2,676 ft.; D.&A.

WEST TEXAS WILDCATS

Andrews County

Humble O. & R. Co. No. 1 J. M. Spinks, sec. 13, Blk. A-20. Drlg. 3,700 ft.

Trippiehorn No. 2 King, sec. 11, Blk. A-46. S.O. 4,260 ft., drlg. 4,350 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 1,112 ft.

Concho County

Maverick Oil Co. No. 1 Jim Rice, sec. 18, I.N.R.R. Sur. T.D. 2,454 ft.; P.B. to 1,847 ft.; fshg.

W. C. Nelson et al No. 1 Rice, 1,980 ft. S and 660 ft. W, sec. 13, H.&T.C. Sur. R.U. spudder.

John W. Westbrook No. 1 Ledbetter, sec. 2, Sur. 1,673, S.G. 2,110 ft.; drlg. 2,353 ft.

Crane County

Big Basin Pet. Co. No. 1 Cowden. S.D. 2,602 ft.

Clark et al No. 1 A. P. Jordan, sec. 13, Blk. B-22, P.S.L. Sur. Machine.

Gulf Oil Corp. No. 2 W. N. Waddell, 1,980 ft. from S and W, sec. 18, Blk. B-21. Machine.

Gulf O. Corp. No. 2 Tubbs, 440 ft. N and E, sec. 12, Blk. 27-B. Location.

Humble O. & R. Co. No. 2 Tubbs, 1,980 ft. from N and W, sec. 11, Blk. B-27. Loc.

Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. Drlg. 2,600 ft.

Rider et al No. 1 Thaxton, 200 ft. from NE and 2,570 ft. from SE, sec. 2, W. L. Wilkenson Sur. Spudded and S.D.

Sinclair Prairie Oil Co. et al No. 1 Tubbs, sec. 3, Blk. B-27. S.D. 3,164 ft.; to deepen.

L. R. Stroud No. 1 Moseley. T.D. 138 ft. Set csg.

Crockett County

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur. T.D. 650 ft. U.R. csg.

Ector County

W. Dunning, Jr., No. 1 H. E. Cummins, sec. 33, Blk. 45, Twp. 1n, T.&P. Sur. Drlg. 1,546 ft.

Stanolind O. & G. Co. No. 1 J. E. Witcher, sec. 24, Blk. 43, Twp. 2s, T.&P. Sur. T.D. 4,230 ft.; P.B. 4,211 ft.; made 102 bbls. in 24 hrs.

Edwards County

Paul Teas No. 1 J. B. Stewart, sec. 2, Blk. DA, G.C.&S.F. Sur. Fsg. 3,722 ft.

Fisher County

Forest Dev. Co. No. 1 A. M. Dry, 640 ft. from S and 2,000 ft. from E, sec. 108, Blk. 2, H.&T.C. Sur. T.D. 2,121 ft. Cementing cave.

Gaines County

Landreth Prod. Co. No. 1 Kirk, sec. 22, A-21. S.D. 274 ft.

W. T. Walsh et al No. 1 Averitt, sec. 228, Blk. G, W.T.R.R. Sur. Elev. 3,322 ft.; fishing 4,910 ft.; backed up 3,180 lbs. pressure while S.I.

Garza County

M. L. Richards No. 1 Post Estate, sec. 4, Blk. 5, K. Aycock Sur. T.D. 2,825 ft.; acidized 1,000 gals. 2,782-2,822 ft. and 1,000 gals. later. Swabbed 40 bbls. day.

Glasscock County

Fleetborn Oil Corp. No. 1 F. C. Dodson, sec. 13, Blk. 34, Twp. 3s. Fsg. 2,017 ft.

Bruce Frazier No. 1 E. Patterson, 330 ft. N and E, sec. 188, Blk. 29, W. & NW. Location.

Howard County

Southern Oil Co. No. 1 W.P. Edwards, sec. 32, Blk. 30, Twp. 1s, T.&P. Sur. S.D. 375 ft.

Hudspeth County

Haymon Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P. Sur. T.D. 893 ft. Fsg.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8 Blk. 3, H.&T.C. Sur. Drill pipe stuck 3,042 ft.

Jones County

Bob Elmore No. 1 Coton, sec. 10, D.D.&A. lands, 3 mi. W of Avoca. Drlg. 2,052 ft.

Fain-McGaha Oil Corp. No. 1 Hayden, E. C. Martinez Sur. 195. Drlg. 1,510 ft.

Fondren Prod. Co. No. 1 Cox & Manley, F. Sieberman Sur. No. 8. Drlg. 656 ft.

Humphrey's No. 1 A. A. McDuff, sec. 1, Blk. 15, T.&P. Sur. Drlg. 2,547 ft.

Parker No. 1 C. L. Brown, sec. 9, Blk. 2, T.&N.O. Sur. Drlg. 1,345 ft.

Kimble County

Dr. B. D. Thomas No. 1 Rust, C of SW¼ sec. 47, B.S.&F. Sur., 12 mi. NW of Junction. Location.

Martin County

Woodley Pet. Co. No. 1 M. S. King, sec. 30, Blk. 35, Twp. 3s, T.&P. Sur. Drlg. 2,220 ft.

Menard County

Thompson No. 1 Elsinore, 3,978 ft. from N and 1,203 ft. from E line, sec. 53, Blk. D, G.C.&S.F. Sur. Loc.

Wilcox O. & G. Co. No. 1 Merchenson, sec. 158, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard. Drlg. 1,378 ft.

Pecos County

S. Thompson No. 1 Elsinore Cattle Co., 3,978 ft. N and 1,203 ft. E, sec. 53, Blk. D, G.C.&S.F. Location.

Trans-Pecos Oil Co. No. 1 F. W. Popham, sec. 235, Blk. 11, G.H.&S.A. Sur. T.D. 350 ft.; straight reaming.

Trans-Tex. Oil Co. No. 1 Caldwell, sec. 37, Blk. 40, Twp. 9, T.&P. Sur. S.O. 3,905-4,000 ft.; T.D. 5,280 ft.; P.B. 4,405 ft.; acidized 1,000 gals. Testing.

Trans-Pecos Oil Co. No. 1 Gallaher, sec. 9, Blk. 51, T.&P. Sur. Spud and S.D.

Presidio County

Linderman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R. Co. Sur., 2½ mil. NE of Presidio. T.D. 1,635 ft.; pipe froze.

Runnels County

Golden Pet. Co. No. 1 Giesecke, 14,462 ft. from N and 6,790 ft. from E, James Hughes Sur. S.D. 118 ft.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 25, Blk. LL, T.C.R.R. Sur. U.R. at 1,370 ft.; Drlg. 1,800 ft.

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28. Elev. 2,209 ft.; S.G. 4,350 ft. Drlg. 4,504 ft.

Scurry County

Bristow & Cantrill No. 1 Shannon, Est., sec. 331, Blk. 97, H.&T.C. Sur. Drlg. 2,635 ft.

Tom Green County

Spinner No. 1 Reed, 330 ft. S and W of Sub. 39, Mason & Perry Sur. Old T.D. 508 ft., now S.D., 1,710 ft.

Upton County

Cordova Union No. 1 fee, 672 ft. S of I.T.I.O. No. 1 Cordova Union, sec. 3, Blk. A.B. T.D. 2,176 ft.; P.B. 2,075 ft.; testing.

Greencliff Oil Corp. et al No. 1 J. H. Tippett, C NE¼ sec. 48, Blk. Y, T.C. ur. S.D. 4,244 ft.; salt water.

Ward County

Abell Brothers' No. 1 Lancaster Estate, sec. 61, Blk. 8, H.&G.N. Sur. in Pecos County, 6½ miles down Pecos River from NW cor. of Pecos and E cor. of Reeves County. Drlg. 2,122 ft.

California Co. No. 1 L. Adams, sec. 39, Blk. 34, H.&T.C. Sur. T.D. 2,570 ft.; est. good for 200 to 250 bbls. day.

Lindsay & Bolin No. 1 Thomas, sec. 31, Blk. 34, H.&T.C. Sur. S.D. 2,820 ft.

Olsen & Anderson No. 1 Yell, W. F. Stewart Sur., sec. 6. T.D. 2,600 ft.; P.B. to 2,455 ft.; standardizing.

Peck et al No. 1 Reynolds, sec. 12, Blk. 32, H.&T.C. Sur. Drlg. 2,166 ft.

Richardson Oils, Inc., No. 1 Hathaway, sec. 37, Blk. 34, H.&T.C. Sur. Cellar.

Superior Oil Co. No. 1 J. H. Hughes, sec. 67, Blk. 34, H.&T.C. Sur. Drlg. 1,472 ft.

Winkler County

Bert Fields et al No. 1 Pure-Clapp, 330 ft. N and E, sec. 26, Blk. 26. Rotary drk.

R. H. Henderson No. 1 McCutchen, sec. 10, Blk. B-3. Illinois Oil Co. to drill.

R. H. Henderson et al No. 1 J. B. Walton, sec. 10, Blk. 26. T.D. 3,045 ft.; to shoot.

R. H. Henderson et al No. 1 J. B. Walton, sec. 9, Blk. 26. T.D. 3,004 ft. Fsg.

R. H. Henderson No. 2-B Walton, 330 ft. from N and W, sec. 10, Blk. 26. Drk.

Herbert Oil Co. No. 1 I. Hendrick, 2,310 ft. from S and W, sec. 14, Blk. 26. S.D. 2,550 ft.

Illinois Oil Co. No. 1 Central State Bank of Abilene, sec. 23, Blk. 26, P.S.L. Sur. S.D. 2,623 ft.

K-D Oil Co. No. 1 P. Mitchell sec 22, Blk. B-16, P.S.L. Sur. S.D. 1,150 ft.

Magnolia Pet. Co. No. 1 State-Walton, sec. 7, Blk. B-3. Drlg. 3,650 ft.

Fred Hyer No. 1 Evans, sec. 8, Blk. 56. Drlg. 3,700 ft.

Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Sur. S.D. 3,128 ft.

Sun Oil Co. No. 1 Keystone, sec. 3, Blk. 77. Drlg. 3,810 ft.

Superior O. & G. Co. of Tulsa No. 1 M. J. Hill, sec. 18, Blk. B-11, P.S.L. Sur. S.D. 1,120 ft.

Wahlenmaier and Atlantic Oil Prod. Co No. 1-A Walton, sec. 34, Blk. 74. T.D. 2,883 ft. Fsg.

Yoakum County

C. J. Davidson et al No. 1 Bennett, sec. 678, John H. Gibson Sur. Elev. 3,557 ft.; T.D. 5,278 ft. To shoot.

TEX. PANHANDLE WILDCATS

Cottle County

Alma Oil Co. No. 1 Yarbrough, sec. 546, Blk. H, W.&N.W. Sur. Show gas and oil 4,200-08 ft.; drlg. 4,310 ft.

Gray County

Iverson et al No. 1 McKinney, sec. 127, Blk. 2, L.&G.N. Sur. T.P. 3,240 ft.; shot; T.D. 3,276 ft.; swabbed 480 bbls. in 24 hrs.

K. Kinsey No. 1 Stephens, sec. 187, Blk. N and 1,900 ft. from E, sec. 546, Blk. H, B-2, H.&G.N. Sur. T.D. 2,475 ft.; swedging csg.

Saulsbury Oil Co. No. 1 Husted, C W½ sec. 116, Blk. B-2, H.&G.N. Sur. Fishing 2,733 ft.

Hartley County

O. V. Beck et al No. 1-A Matador Ranch, sec. 20, Blk. 22, C.S.S. Sur. Pipe stuck 4,600 ft.

Hutchinson County

Phillips Pet. Co. No. 1 Bryan, sec. 6, Blk. M-21, T.C. Ry. Sur. Drlg. 600 ft.

Power Pet. Co. No. 1 Hodges, sec. 16, Blk. M-35, T.C. Sur. Top pay 3,050 ft.; shot; swabbed 120 bbls. oil and 20 bbls. water in 12 hrs.

L. L. Travis et al No. 1 Hodges, sec. 14, Blk. X-02, H.O.&B. Sur. Drlg. 1,827 ft.

Moore County

Shamrock O. & G. Co. No. 1 Ryan-Jones, sec. 190, Blk. 3-T, T.&N.O. Sur. T.D. 3,331 ft.; running csg.; tested 50,000,000 ft. gas.

Wheeler County

Allender & Heare No. 1 Harvey, sec. 67, Blk. 13, H.&G.N. Sur. C.O. 2,186 ft.

Ben G. Barnett No. 1 Stewart, sec. 73, Blk. 13, H.&G.N. Sur. S.D. 2,136 ft.

Dumar O. & G. Co. No. 1 Slavik, sec. 108, Blk. 23, H.&G.N. Sur. Drlg. 1,932 ft.

Johnston et al No. 1 Rabo, sec. 105, Blk. 23, H.&G.N. Sur. Spudded and S.D.

Phillips Pet. Co. No. 1 Porter, sec. 35, Blk. A-8, H.&G.N. Sur. Drlg. 2,137 ft.

Smith Bros. No. 1 Woodward, sec. 23, Blk. 24, H.&G.N. Sur. S.D. 2,240 ft.

E. C. TEXAS WILDCATS

Bowie County

Woodley Pet. Co. No. 1 Lumpkin. Drlg. 2,700 ft.

Fannin County

L. P. Kean No. 1 Kelley, Wm. Kelley Sur., 3 mi. SW of Ladonia. Drlg. 2,230 ft.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 6 miles NW of Denison. Elev. 767 ft. Top Viola 4,901 ft.; top Woodford 4,474 ft.; drlg. 5,075 ft.

Franklin County

W. C. Windsor and Humble O. & R. Co. No. 1 King & Hughes, in O. James Sur., 1½ mi. SW of Talco. Top Georgetown 3,293 ft.; T.D. 4,197 ft.; 21 B.H.P. through open tbg.

Freestone County

Clark & Cowden No. 1 M. Scott, 330 ft. NE of NE cor. of Church Lot in Amalt Sur., 7 mi. N of Fairfield. Drk.

Henderson County

McDougal et al No. 1 E. Price, 965 ft. S and 660 ft. E of most westerly W line, M. Mathews Sur., 4 mi. S of Trinidad. Drk.

Lamar County

J. Forrester et al No. 1 J. E. Woodward, L. Highton Sur., but in J. W. Woodward Sur., 1 mi. E of Mintel. Top Paluxy, 3,060 ft.; elev. 402 ft.; drlg. 3,775 ft.

Limestone County

C. L. Lytle No. 1 J. L. Thompson, P. Varella Sur., Mexia field No information.

Navarro County

W. A. Reiter et al No. 1 T. W. Bounds, 330 ft. from N and E of H.T.&B. Sur. Base Austin 2,975 ft.; S.D. 3,435 ft.

Nacogdoches County

Overtex Oil Co. No. 1 Hazelwood, J. L.

Ewing Sur., 15 mi. S of Nacogdoches. No information given.

Red River County

Midwest and Texhomia Oil Co. No. 1 Hacker & Hughes, M.E.&P. Sur., 9 mi. NE of Talco. Drk.

Orr et al No. 1 Kurth Lbr. Co., 3,960 ft. from N and 600 ft. from W line of E. Smith Sur., center of county. S.D. 86 ft.

Williams et al No. 1 L. and O. Roberts, James Bankston Sur., 2 miles NE of Annona. Elev. 396 ft.; S.D. 725 ft.

Rusk County

McCallum et al No. 1 E. C. Gary, John Piburn Sur., 5 miles S of Henderson. Elev. 338 ft.; S.D. 3,440 ft.

Pure Oil Co. No. 1 W. H. Faulkner, Wm. Elliott Sur., 8 of Concord. Elev. 563 ft.; drlg. 1,750 ft.

J. W. Shipman et al No. 1 Citizens Natl. Bank, NE cor. of 125-ac. tract, J. J. Y'Barbo Sur., 4 miles NE of Henderson. S.D. 3,510 ft.

Titus County

Pleasant Oil Co. No. 1 C. M. Carr, North M. V. Delgado Sur., 1½ mi. E of Talco. T.D. 4,208 ft.; pmpg. 25 to 30 B.P.H.

Humble O. & R. Co. No. 1 M. B. Groves, Ben Jones Sur. Cut fault at 1,642 ft.; Top Woodbine 3,240 ft.; drlg. 4,500 ft.

Humble O. & R. Co. No. 1 M. Galt, 210 ft. from N and 419 ft. from W line of R. Winn Sur., 1½ mi. SE of Talco. Elev. 346 ft.; S.D. 260 ft.

Jule Alford, tr., No. 1 W. D. Fry, 330 ft. out of most northerly SE cor. of tract, I.P. Stern Sur., 1½ mi. S of Carr well. Elev. 319 ft.; drlg. 2,715 ft.

O'Neal, tr. No. 1 O. C. Lillianstern, C of 80 ac., Wm. Canon Sur., 4 mi. SE of Carr well. Elev. 302 ft.; top Georgetown 3,545 ft.; drlg. 3,800 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co. No. 1 D. A. Maxie, John Collum Sur. Comp.; 35 B.P.H. 6,011 ft.

American Liberty Oil Co. No. 1 Marcus Rembo, J. H. Reeves Sur. Drlg. 2,200 ft.

R. W. Norton No. 2 Mary Rives, John Collum Sur. Drlg. 3,541 ft.

Harrison County

R. C. Payne et al's No. 1 Lowery, H. D. Spain Sur. P.B. to 3,524 ft.

Marion County

Ed S. Holman's No. 1 Henderson, R. Bennington Sur. P.B. to 2,443 ft.

Panola County

George Hudson et al's No. 1 J. F. Nail, McGeary Sur. Set 8-in. 40 ft.; fshg. for core bbl. at 2,345 ft.

Geo. Le Grand No. 1 P. J. Wardleigh, A. Thompson Sur. Set 10-in. 62 ft.

N. C. TEXAS WILDCATS

Archer County

C. Crosby No. 1 Ray, Blk. 150, Harris Sub. T.D. 600 ft.; S.D. for water.

Deep Oil Dev. Co. No. 11, Lease 4, L. F. Wilson, sec. 76, A.T.N.C. Lands. C.O. after shot; est. 120 bbls.; P.O.P.; C.O. and testing; est. 75 bbls.

C. B. Long No. 1 J. H. Turbeville-A, Blk. 155, H. Carson Sur. No. A-89. S.S.O. 1,530-31 ft.; W.O.C.; R.U.S.

Lickey & Guffy No. 1 J. R. Parkey, sec. 1, S.P. Sur. A-423. R.U.R. 1,420.

T. O. Shappell No. 1 Mrs. P. A. Carr, sec. 7, B.B.B.&C. Sur. A-48. Drlg. 1,008 ft.

Texas Co. No. 1 T. A. Mathews, sec. B-7, Harris Sub. 960 ft.

Texas Co. No. 1 J. H. Turbeville "I," J. W. Cain Sur. A-69. Drlg.; 384 ft.

Wilson-Ligon No. 1 M. B. Kolb, Blk. 116, Harris Subd. R.U. and S.D.

Baylor County

Consolidated Oil Co. No. 1 W. H. Portwood "Z," T.E.&L., sec. 1,573. R.U.R.

Hardgrave & McCulloch No. 1 Louis Hrncirik, sec. 5, B.B.B.&C. Sur. A-70. S.D. 300 ft.

K. R. March No. 1 W. B. Self, A. Hines A-156. Loc.

Morris & Spoonts No. 1 D. K. Martin, sec. 212, T.&N.O. Sur. A-748. Drlg. 960 ft.; S.D.

Morris & Spoonts No. 1 J. M. Parker, B.B. B.&C. Sur., sec. 148, Blk. A. Spudded and S.D.

W. P. Morris et al No. 1 C. T. Porter, Edward Brown Sur. Sand with S.O. and gas 1,320-24 ft.; T.D. 1,333 ft.; fshg.

Cooke County

Anderson & Kerr No. 1 F. A. Bruthmeyer, 909 ft. N and 491 ft. W, SE cor. 120-ac., H. Stroud Sur. A-930. Sd. 1,882-95 ft.; test wtr.; S.S.O. 2,910-15; 5-in. cmtd. 2,695; W.O.C.

Anderson & Kerr No. 1 C. A. Steiner, T. B. Stroud Sur. No. A-940. Drlg. 2,000 ft.

Cain & Chandler No. 1 J. B. Burch, J. McWilliams Sur. A-658. R.U.R.

Hardin Oil Co. No. 1 J. G. Bonner, J. Lindheimer Sur. Cg. 1,366 ft.

Lanier et al No. 1 Thetford, S.P.R.R. Sur. A-967. U.R. 6-in. csg. 552.

L. A. Long et al No. 1 Series, Hunt County School Lands Sur. A-440. Drlg. 2,345 ft.; S.S.O. 2,320-68 ft.; 5-in. 2,332 ft.; cmtd.; W.O.C.

Hank Masterson No. 1 R. J. Timms, J. W. McPherson Sur. A-696, 1,500 ft. S and 150 ft. W. NE cor. farm. S.S.O. at 1,758-61 ft.; 6⅝-in. 1,756; cmt.; W.O.C.

N. Newburn No. 1 Dotson, Wm. Campbell Sur. A-238. Fsg. 1,542 ft.; C.O.; hole clean.

Charles Newsom No. 1 T. Wiesman, Blk. 9, Thos. Scott Sur. A-900. Drlg. 1,710 ft.

Petroleum Producers No. 1 J. W. Mount, J. C. Meeks Sur. A-758. Drlg. 1,275 ft. S.S.O. 1,540-45; will test.

H. F. Potts No. 1 S. D. Meador, B.B.B.&C. Sur. A-138. Drlg. 1,216 ft.

L. E. Rader No. 1 McCubbin, R. Wheelock Sur. A-1,684. Drlg. 1,213 ft.; sand 1,556-66 ft.; S.D. for 6-in. csg.; rmg. to set pipe.

W. F. Russell No. 1 Belle Payne, Marshall University Sur. A-630. Spudded and S.D.

J. M. Russell et al No. 1 B. B. Bawley, Blk. 24, John Barnett Sur. C.O.

Ruwaldt-Couch No. 1 Fleitman, L. Mikel Sur. A-747. Drlg. 1,105 ft.

Sunray Oil Co. et al No. 1-A A. C. McCall, W. H. White Sur. A-1,134. Drlg. 4,060 ft.

B. F. Thompson No. 1 F. Trubenback, P. Davidson Sur. A-337. Drlg. 490 ft.; C.O.

Whitehead et al No. 1 W. Reed, F. Earthman Sur. A-349. R.U. std. tools; drlg. 380 ft.

Woodbine Oil Co. No. 1 Potter & Potter, J. Gorham Sur. S.D. at 900 ft.

Denton County

Jack Caudle et al No. 1 B. D. Jones, John Morton Sur. Spudded.

Oil Finance Corp. No. 1 J. S. Gambill, T. Burress Sur. S.D. for pipe.

C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238. Drlg. 455 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur. U.R. 2,740 ft.

Jack County

Bryson Oil & Gas Co. No. 1 G. E. Evett, Geo. Hardesty Sur. A-294. Drlg. 3,312 ft.

Clark et al No. 1 L. S. Wright, Z. S. Brooks Sur. A-64. O.S. 756-70; testing.

J. W. Cole et al No. 1 Mrs. D. C. Clayton, Lewis Knight Sur. A-324. R.U.R.

S. H. Edwards No. 1 Bryson, J. Hughson Sur. A-256. R.U.R.

W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. Loc.; spud.

W. H. Hammon et al No. 1 F. H. Rhodes, R. N. Erwin Sur. A-1,378. Loc.

C. Kadane No. 1 E. F. Smith, S.P.R.R. Sur. A-552. Drlg. 695 ft.

E. C. Lawson et al No. 1 Patterson, Lewis Knight Sur. A-324. 2,950-64 B.S.S.O.; R.U.S.

Nelson Oil Synd. No. 1 J. P. McCoy, A. S. Ensworth Sur. Testing at 2,961-80 ft.; est. 40 bbls.

Ray & Staniforth No. 1 L. J. Hestor, J. Ash Sur. A-8. Drlg. 1,825 ft.; P.B. to 1,000 ft.; crooked hole.

Montague County

A. Gutowsky et al No. 1 J. E. Lemmon, Blk. 13, C. K. Hamm Sur. A-322. Drlg. 1,074 ft.

E. T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. School Lds. Drk.

J. P. Hart No. 1 W. M. Talley, J. Perrin Sur. T.D. 1,740 ft.; fsg.

L. C. Heydrick No. 1 J. B. Lawrence, M. Burnside Sur. A-14. Drk.

Jim Seeds et al No. 1 Coombs, sec. 54, M.E.P.&P. Sur. S.D. 1,310 ft.

J. M. Holmes No. 1 H. D. Field, sec. 55, M.E.P.&P. Sur. A-528. S.D.

Throckmorton County

Ben Ashe et al No. 1 W. B. Parrott, sec. 961, T.E.&L. Sur. Loc.

Alex M. Snyder No. 1 W. J. Timmons, sec. 793, T.E.&L. Sur. Drlg. 1,107 feet.

Wichita County

F. P. Cullum No. 1 T. L. Burnett, sec. 4, H.T.&B. Sur. A-752. Drlg. 1,540 ft.

Fisher & Moore No. 1 Gibson, sec. 302. Sand 1,824-60 ft. W.O.C.

T. F. Hunter No. 1 S. P. Gibson, sec. 301, W.C.S., 1,170 ft. S and W, NE sec. Drlg. at 2,085 ft.

Tom Medders No. 1 Fassett, sec. 1 E.T. A-76. Spudding.

Reno Oil Co. No. 1 W. T. Waggoner-D, sec. 1, S.&M. Sur. A-393. Drlg. 571 ft.

Wilbarger County

Bason Drlg. Co. No. 1 W. T. Waggoner-B, sec. 5, H.T.&C. Sur. Blk 5. Drlg. 1,745 ft.

Franklin Oil Co. No. 1 D. G. Feller et al, sec. 108, Blk. 14, H.&T.C. Sur. S.D. 1,570 ft.

Hamilton Pet. Co. No. 1 Waggoner B, sec. 65, Blk. 14, H.&T.C. Sur. Drlg. 1,250 ft.

Lane & Simons No. 1 Allison, sec. 42, H. &T.C. Sur., Blk. 13. Moving in rotary.

Pois & Schultz No. 1 W. T. Waggoner, sec. 103, H.&T.C., Blk. 14. Loc.

Ed S. Smith et al No. 1 W. T. Waggoner, sec. 59, Blk. 14, H.&T.C. Sur. Sd. 1,850-53 ft.; R.U.S.T.

Smith No. 1 S. A. Dill et al, sec. 32, Blk. 14, H.&T.C. Sur. S.D. 2,090 ft.

Wheeler et al No. 1 W. T. Waggoner, sec. 99, H.&T.C. Sur., Blk. 14, Drlg. 1,250 ft.

Young County

L. T. Burns No. 1 C. E. Braune, T.E.&L. Sur. 188. Location.

Christie Bros. No. 1 Primitive Baptist Church, S. L. Hill Sur. A-126. Drlg. 4,029 ft.

C. C. Counts No. 1 W. E. Edwards, T.E.& L. Sur. 71. Drlg. 300 ft.

Curtis & Bracken No. 1 Allar Co., H. Garmes Sur. A-104. Drlg. 4,000 ft.

C. E. Knox No. 1 Washam, Blk. 8, sec. 14-12, T.E.&L. Sur. Drlg. 2,538-88; est. 100 bbls.; P.O.P.

Dobbs Oil Co. and McLester No. 1 Laquey, J. Busse Sur. A-1,570. Drlg. 3,654 ft.

Nash & Windfohr No. 1 W. S. Simms & Franklin Sur. A-1,425. Drlg. 2,210 ft.

C. D. Neff et al No. 1 W. A. Dennis, C. F. Bass Sur. Drlg. 1,355 ft.

Pitzer & West No. 1 Harrell, J. Daily Sur. A-73. Rig; R.U.S.T.

Pitzer & West No. 1 S. L. Thornton, sec. 1,015, T.E.&L. Sur. A-324. Drlg. 2,595 ft.

Rathke Oil Co. No. 2 J. T. Rogers, S. H. Graham Sur. A-124. Drlg. 3,700 ft.

A. T. Strong No. 1 Manley. Drlg. 2,205 ft.

Oklahoma Fields

(Continued from Page 75)

Slusher, NW SW NW section 35-7-17w, in Kiowa County, had showings of oil but failed to make a producer by acidizing, and was dry and abandoned at 1,055 feet, total depth.

The following new work in the southwestern counties was reported: In Jefferson County, Reno Oil Co. No. 1 Gann, SE SE NE section 35-6s-4w, wildcat, was drilling at 1,716 feet. In Comanche County, A. E. Heiden No. 1 Mitchell, NE NE NE NW section 10-3-10w, an old well drilling deeper, was setting 6⅝-inch casing at 1,145 feet. In Kiowa County, J. C. Shaffer and others No. 1 Stone, SE NE NE section 34-7-17w, was drilling at 135 feet. In Jackson County, Gulf Oil Corp. No. 1 Shirley, NE NW NE section 6-1s-19w, had erected derrick.

McCurtain County

Louis Sikes, independent operator of Duncan, Okla., was rigging up rotary at No. 1 Mitchell, C NW SW section 12-9s-26, in the extreme southeastern corner of Oklahoma, in McCurtain County. The wildcat location is on a 11,000-acre block, near the Arkansas and Texas borders. Contract is reported to be for a 4,000-foot test, but the hole may be carried deeper if geologic conditions are promising. It is on what is called the Bokhoma structure, so named by John McGee, who geologized the area.

Canadian Fields

(Continued from Page 72)

keting of the heavier tars and asphalts.

Experiments with hydrogenation of the bituminous sands, carried on at Ottawa and Edmonton, have produced a clear white gasoline, but the expense of the equipment required renders it unlikely that the hydrogenation process will be utilized in the present undertaking.

Ontario Operations

In the Eden field, Elgin County, Ontario, Olga Gas No. 2, Claude A. Wilson farm, Lot 24, Concession 8, Bayham Township, blew down to 300,000 feet a day from an initial flow of 340,000 feet. It has been connected with the line, the Dominion Natural Gas Co. taking the production. Olga No. 3 has been spotted in the southeast corner of the same farm and rig will be moved as soon as weather permits. E. P. Rowe No. 4, Ball farm, Lot 26, Concession 8, Bayham Township, has resumed from 1,190 feet after setting casing.

Farther north, in the Brownsville area, W. J. Hussey & Son No. 1, Dereham Township, Oxford County, offsetting Aloka Oil & Gas Co. No. 1 producer to the north, is drilling. Hussey No. 2, east of Aloka No. 1, is spudding. Aloka Oil & Gas Co. No. 3 is drilling.

In the southeast extension of the Dover field, Kent County, E. P. Rowe No. 2, Louis Bruette farm, Lot 5, Front Concession, Raleigh Township, has been abandoned. Outfit is being moved to a location farther east on the same farm, at the west side of the south approach to the Prairie Siding bridge.

In Chatham Township, Kent County, Union Gas Co. No. 3, SW Lot 6, Concession 14, is below 1,500 feet.

In Raleigh Township, Kent County, Olga Gas, Ltd., is abandoning its group of small gassers and will concentrate its efforts on the Eden field in Elgin County.

Farther south, on the Houston farm, Lot 13, Concession 10, Raleigh Township, Ajax Oil & Gas Co. is below 300 feet on the first of a series of three core drill tests of a potential northern extension of the De Clute field. Sam McEachren and associates of Dunnville have been leasing between the east end of the De Clute field and Cedar Springs and are planning to drill a test this spring. A deep test drilled some years ago north of No. 3 Highway encountered salt, but no drilling has been done south of the road.

Ballin Buys Interest

A. E. Ballin of Milwaukee, Wis., has purchased a partial interest in the Oklahoma Iron Works and on May 1 will join both that institution and the International Supply Co. as vice president and general manager, it is announced by James W. Sloan, president.

Mr. Ballin has been president of McIntosh & Seymore, engine builders of Auburn, N. Y., and more recently has been in charge of engineering and sales of the Norberg Manufacturing Co., equipment builders of Milwaukee. Earlier, he was with Snow Pump Works in Buffalo.

New Distributor

The Riley Oil Co. has been organized by E. J. Riley, oil supply man of Tulsa, and will become distributor in the Tulsa territory of the Gulf Refining Co. He will have a territory of 18 counties. Mr. Riley was formerly president of the Smith Separator Co. Associated with him are Bob Dye, sales representative, and Jack Keefe, office manager.

P. Oldenburg, formerly with the Shell Petroleum Corp. at Wink, Tex., has joined the engineering department of the California Co. and moved to Midland.

Charles J. Eastman, of Chicago, has been appointed director of the Federal Petroleum Agency in Texas, with headquarters to be in Tyler or Kilgore.

Rush Blodget, vice president and general manager of the California Oil Producers Agency, has assumed his new duties as director of the California Society of the Revolution, to which position he was recently elected by the board of directors to fill the vacancy caused by the recent death of Orra Eugene Monnette.

Mr. and Mrs. Bruce McLeod of Bothwell, Ontario, celebrated their sixtieth wedding anniversary March 27. Mr. McLeod was a pioneer of the Petrolia field and was for 40 years manager of the Carman & Fairbank properties in the Bothwell field, retiring some years ago. J. H. McLeod, western production manager for Imperial Oil, Ltd., is a son.

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1936 High	1936 Low	Week ended April 4 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	3,600	116½	110	115⅝	Amerada Corp.	788,675	N.P.	50cQ	4-30-36	$2.00	80	48½	55⅝	39
35⅛	27⅛	50,400	35⅛	33	34⅝	Atlantic Refining	2,664,904	$25	25cQ	3-16-36	1.00	28	20½	35¼	21½
18¾	14⅛	50,000	18¾	17	18⅝	Barnsdall Corp.	2,195,397	$5	15cQ†	5-1-36	‡.20	14¾	5⅞	10	5⅞
21	14	122,800	21	19	20½	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-36	.20	15¾	3⅜	19¼	6⅝
15¼	11⅞	54,600	14⅞	14⅛	14⅜	Consolidated Oil Corp.	13,996,072	N.P.	25c	4-7-36	.25	12¼	6½	14¾	7¼
38½	33½	24,200	36⅝	35¾	36½	Continental Oil of Delaware	4,682,722	$5	25c	4-30-36	.62½	35	15½	22¾	15¾
34⅜	22	8,600	32½	31⅛	32	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11¾	23½	12
12¼	6⅜	10,400	11⅜	10½	10¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
22⅝	18¼	21,900	22⅝	22	22⅜	Mid-Continent Petroleum	1,857,912	$10	40cSA	6-1-36	.40	20½	9½	14⅜	9¼
39	19⅞	7,000	39	35¾	39	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	13½	38,300	15¼	14⅝	15	Ohio Oil Co.	6,563,377	N.P.	15cSA	12-14-35	.30	14¼	9¼	15⅞	8½
18	13⅛	700	15	14½	15	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	14	6¾	9⅜	5½
4⅛	1⅝	38,700	4⅛	2¾	4	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
40⅜	38⅛	30,200	40⅜	47⅝	48⅛	Phillips Petroleum	4,154,687	N.P.	50c†	2-29-36	1.25	40	13¾	20¾	13⅜
16½	11⅞	25,700	16½	15¼	16¼	Plymouth Oil Co.	1,050,000	$5	25c	3-30-35	.25	13	6½	16¾	7¼
24⅞	16⅝	35,900	23⅞	22⅝	23⅞	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
57	48⅜	1,000	55⅝	54⅜	55¼	Royal Dutch N. Y. shares	fl. 503,642,000	fl. 100	$1.70	8-1-35	1.70	48½	29½	39⅛	28⅝
43⅝	33¼	19,100	39⅜	36¾	39⅜	Seaboard Oil of Delaware	1,244,283	N.P.	15cQ†	3-14-36	1.00	36⅞	20¾	38⅜	20¾
19¼	15¼	9,400	17⅞	17	17⅞	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
120	110½	400	115	115	115	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	111	63½	89	57
6¾	5	4,300	5⅛	5	5⅛	Simms Petroleum	461,688	$10	1.25 liq.	10 18-35	11.75 liq.	18¾	4¾	17⅛	7¼
31½	19½	4,200	30½	29	29⅞	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17	14	60,000	14⅞	14	14⅞	Socony-Vacuum	31,154,379	$15	20cSA	3-16-36	.30	15¾	10⅝	19⅞	12½
47⅝	39⅞	15,400	45⅞	44⅛	45⅝	Standard Oil of California	13,102,900	N.P.	25cQ†	3-16-36	1.00	41⅛	27¾	42⅞	26½
40⅛	32¾	22,200	39¼	37	39½	Standard Oil (Indiana)	15,215,677	$25	25cQ	3-16-36	1.00	33⅜	23	32¾	23¼
30	25	900	29¾	28	29¾	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	32	20	41	26
70	51⅛	51,500	67¼	64⅞	66⅝	Standard Oil of New Jersey	25,856,081	$25	50cSA†	12-16-35	‖1.25	52⅜	35¾	50⅛	39¼
91	72	100	85	85	85	Sun Oil	1,733,013	N.P.	25cQ	3-16-36	$1 & 7% Stk.	77	60½	74¼	51½
39⅛	28⅞	25,800	38¾	37	38¼	Texas Corp.	9,486,417	$25	25cQ	4-1-36	1.00	30¼	16½	29⅜	19⅝
15¼	7½	15,200	13	12¼	12⅝	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	9¼	3¼	6½	2½
19⅛	14¾	13,900	18⅛	17½	17⅞	Tide Water Associated	5,631,341	N.P.	25c	1-15-36	....	15⅞	7⅝	14⅜	8
106½	100⅝	2,000	105½	103¾	104⅞	Tide Water Associated pfd.	666,524	$100	$1.50Q	4-1-36	§6.50	104½	84	87	64½
28½	23⅛	13,000	27⅜	26¼	27	Union Oil of California	4,386,070	$25	25cQ	2-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	300	28½	28¼	28¼	Union Tank Car Co.	1,200,000	N.P.	30cQ	3-2-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	21,900	5¼	4⅝	5⅛	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1936 High	1936 Low	Week ended April 4 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
20¼	13¼	11,200	20¼	16¾	19½	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	200	44	43	44	Buckeye Pipe Line Co.	200,000	$50	75cQ	3-14-36	$3.00	42½	30½	38	26
4⅞	2½	57,800	4¾	3⅛	4¼	Caribb Syndicate	799,020	25c	.....	.....	....	4¼	1⅝	5½	1½
124¾	115	100	115½	115	115½	Chesebrough Mfg. Co.	120,000	$25	$1Q†	3-31-36	6.50	157	115	150	116
7⅜	3	63,800	5⅜	4⅞	5⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	⅜	4¼	1¼
4	1⅛	11,200	3⅛	2⅞	3⅛	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	½
4⅛	1½	13,000	3¾	3⅜	3½	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34⅜	19⅞	17,800	30⅝	28	29¼	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	23¾	10	14⅜	9⅝
12	9	4,000	12	10¾	12	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	8⅞	4	7½	4⅛
3¾	1⅞	2,300	3⅜	3½	3⅜	Derby Oil & Refining	263,162	N.P.	....	.. ..	....	2	¾	2¼	1
44	39	150	42	42	42	Eureka Pipe Line	50,000	$50	$1Q	2-1-36	4.00	38	33¼	37	30
98	72	5,500	96⅜	93¼	95	Gulf Oil Corp.	4,538,101	$25	25c	4-1-36	....	74¾	50¼	76¾	49¾
76½	62½	3,500	72⅝	70⅝	71	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	4-1-36	1.25	64	44	49½	33¼
24½	20	12,000	24	22¾	23¾	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-2-35	1.25	22½	15⅜	17⅞	12⅝
9¼	5½	No sales ..		..	..	Indiana Pipe Line	300,000	$10	20cSA	5-15-36	.35	6⅛	3⅝	6⅞	3⅝
39⅜	33½	15,900	38⅞	36	38⅞	International Petroleum	14,247,088	N.P.	$1.25†‡	12-2-35	2.50	39¾	28	33⅜	19⅜
15⅛	9⅞	17,600	14⅜	13¾	14½	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	11⅜	4⅜	5	2⅛
15	7⅜	5,200	15	13⅛	13⅛	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	8¼	3½	6	3⅜
14¼	9⅞	5,200	13½	12¾	13¼	Lone Star Gas	5,382,723	N.P.	20cSA	1-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	1,200	7¼	6⅞	7	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.90	5¾	4⅛	5½	4
23	19¼	2,900	22¼	21¼	22	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-36	1.25	20	11¾	18⅛	13⅛
15¾	10¼	200	12⅛	12⅛	12⅛	National Transit	509,000	$12.50	35cSA	4-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	2,100	3¾	3½	3⅝	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	1,700	4¾	4½	4⅝	New Mexico and Arizona	1,000,000	$1	....	... ..	....	2½	1	2¾	1
6¼	4½	100	5¾	5¾	5¾	New York Transit	100,000	$5	15cSA	4-15-36	.30	4⅞	3	4¾	3
9¼	7	No sales ..		..	..	Northern Pipe Line	120,000	$10	25cSA	2-2-36	.50	8	5¼	7	4⅝
6¼	3¼	61,400	5⅞	4¾	5⅞	Pantapec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	30,800	19¼	16	16½	Root Petroleum Co.	336,045	$1	....	.....	....	5	1½	....	....
4⅝	1⅞	13,600	4⅝	3½	4⅜	Ryan Consolidated	296,931	N.P.	....	.. ..	....	2½	⅝	3⅜	⅞
10	7	1,700	8¼	8	8	Salt Creek Producers	1,496,859	$10	40cSA	12-31-35	1.20	7½	5½	7⅞	5½
40½	32½	4,700	40½	38½	40	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	34½	21⅝	26½	17½
7⅞	4⅜	200	5⅞	5¾	5¾	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5	3⅞	5½	3½
56	54	50	55½	55½	55½	Southwest Penna. Pipe Lines	35,000	$50	$1Q	4-1-36	5.00	56	44¼	47	41
23⅜	18⅜	3,500	19⅛	18¾	18¾	Standard Oil of Kentucky	2,604,790	$10	25cQ†	3-16-36	1.25	24	18	18⅝	14⅝
14⅝	11½	100	13¾	13¾	13¾	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
32¼	21¾	1,200	30¼	29½	30	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	23⅝	11½	28½	12¼
4¼	2⅝	20,400	3⅝	3¼	3⅝	Sunray Oil	1,610,810	$1	....	4-15-31	....	2⅞	⅞	2	⅛
9¾	6	9,400	7⅞	6	6¾	Texon Oil & Land	336,028	N.P.	15cQ	3-31-36	.60	6⅞	5	11	4⅜
7½	4½	10,600	6¼	5¾	5⅞	Texas Gulf Producing Co.	888,063	N.P.	....	12-29-34	....	4¾	2½	7	3⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

PERSONAL

ELMER GEORGE DAHLGREN, chief clerk to the chief conservation officer of the Oklahoma Corporation Commission in Oklahoma City, earned the nickname "Ty" while playing football at University of Wisconsin. Mr. Dahlgren intended to major in journalism, but after one year in the West Virginia oil fields switched to geology and was graduated with a B.A. degree in 1929. He joined the force of the I.T.I.O. company in Oklahoma City field and was later transferred to West Texas. Returning to Oklahoma City in 1931, he became chief clerk in the office of the proration umpire for the city field.

J. V. HOWELL, geologist, of Tulsa, was a Denver, Colo., visitor this week.

FRANKLIN F. LOVERING has joined the force of Phillips Petroleum Co., Oklahoma City field, as apprentice engineer.

W. E. RENNIE, consulting geologist of Denver, Colo., following a business trip to the East, is confined at his home by illness.

SYLVAIN PIRSON, formerly with Seismograph Service Corporation, Tulsa, is now with Gulf Research & Development Company, Pittsburgh, Pa.

JACK MATHESON of Petrolia, Ontario, will leave on April 10 for Peru, where he will join the office staff of the International Petroleum Company.

W. H. WOODHOUSE, president of the Midwal Oil & Gas Company of Toronto, Ontario, has returned from a trip to California and the Middle Western States.

RAY KOLLAR, formerly employed as superintendent in the South Burbank district for the Carter Oil Company, is now general manager of the Salt Dome Exploration Company at Houston, Tex.

BRUCE RAMSEY, general superintendent for the Oklahoma Pipe Line Company, has moved his family from Wewoka, Okla., to Tulsa. MAURICE BRADLEY, formerly foreman at Wewoka, has been transferred to Tulsa.

J. A. BECHTOLD, director of the Standard Oil Company of Louisiana, has been chosen vice president and treasurer of the company in succession to AMOS K. GORDON, who recently retired. Other officers chosen at a meeting of the board of directors were J. R. McWILLIAMS, Shreveport, vice president; SHELBY E. KIDD, New Orleans, secretary, and WILEY B. COTTEN, JR., New Orleans, assistant secretary.

CHARLES CLOWE, geologist and independent operator, of Ardmore, Okla., was in Tulsa last week on business.

HARRY R. LELAND, president, Leland Equipment Company, Tulsa, was in Kansas City and Excelsior Springs, Mo., early this week.

M. F. WATERS, of Hanlon-Waters, Inc., will attend the funeral of JAMES HENAGHAN in Wheeling, W. Va., this week and will return to Tulsa within a few days.

JOHN B. DURFEE, of the Stanolind Oil & Gas Company legal department, Tulsa, is recovering in a Tulsa hospital from severe injuries received in an automobile collision in Tulsa.

H. W. CAMP, manager of refineries for the Empire Oil & Refining Company, has been in New York and Chicago over the past week, having returned to his Tulsa offices Friday.

DOUGLAS HOWARD, graduate of University of Oklahoma with B.S. degree in geology, is now employed by the Arkansas-Louisiana Gas Company, Shreveport, La.

D. E. BUCHANAN and J. H. BOYLE of the Hanlon Companies left Tulsa on Friday to attend the funeral services in Wheeling, W. Va., for JAMES HENAGHAN of Henaghan & Hanlon, Inc.

C. L. ROYERS, formerly of Toledo, Ohio, has been transferred to Muskegon, Mich., to be in charge of Gulf Refining Company's new western Michigan bulk plant and company distribution center.

W. K. ATCHESON, head of the Tulsa division of the motor transport department, Pure Oil Company, has returned from a business trip to the home office in Chicago, Milwaukee and other points.

L. E. SLOAN, district superintendent for the Stanolind Oil & Gas Company's West Texas and New Mexico division, J. E. WOOTEN, district engineer, and district staff have been transferred to new headquarters at Fort Worth, Tex. Former division offices were in Midland, Tex.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The counties within the Cherokee Nation continue to comprise the busiest oil region in Oklahoma, with the Creek Nation second and Osage Nation third. Outside of the three regions, only 6 out of a total of 371 wells were completed in March in the state.

Doctor Diesel, inventor of an oil engine, says that fully 250 ships are now equipped, or are being equipped, with oil engines. If a 9,000-ton oil-burning cargo ship now being constructed is a success, Doctor Diesel thinks that even warships may adopt oil-burning engines.

J. F. Lucey Company, of Los Angeles, has received an order from the Burma Oil Company for several hundred thousand dollars worth of equipment, the company having decided to adopt California equipment and methods in its operations in Burma.

20 YEARS AGO

James N. Hunter, of the Gulf organization in Tulsa, and Miss Mildred Corl, of Fort Worth, Tex., were married April 4.

It is reported that H. F. Sinclair, prominent independent producer, is organizing a syndicate to take over several refining and producing companies and combine them with his own large producing interests. The story goes that he will then form a $25,000,000 producing and refining firm.

Meager news has been received from Tampico, Mexico, of the death of Frank M. Passavant, field secretary of the Penn Mex Oil Company, South Penn Oil Co. subsidiary.

10 YEARS AGO

Fires, believed to have been started by a bolt of lightning, destroyed 7,700,000 barrels of crude oil in storage on Union Oil Company tank farms at San Luis Obispo and Brea, Calif.

R. Otis McClintock, of Tulsa, vice president of the Gypsy Oil Company, has resigned to join Waite Phillips in the oil business. He will be succeeded by Rush Greenslade who has been head of the land department of the Gypsy.

Maj. John M. Reed, of the old firm of Cornwall & Reed, and a director in the Manufacturers Light & Heat Company, dies in Oil City, Pa.

J. EDGAR PEW, vice president, Sun Oil Company, Philadelphia, Pa., accompanied by MRS. PEW, is making a trip to South America.

BERT ROSS, district representative for sales department, Humble Oil & Refining Company, has been transferred from Breckenridge to Midland, Tex.

FRED E. COOPER of Fred E. Cooper Company of Tulsa, has returned from a business trip to Milwaukee, Wis., and eastern points, including New York City.

A. C. JOHNSON, president of the Salt Creek Producers Association and the Argo Oil Company, has returned to Denver, Colo., from the East where he attended the annual meetings of several of the affiliated companies.

LAFAYETTE M. HUGHES, Denver, Colo., attorney and manager of the William E. Hughes estate, has returned to Denver from Archuleta County, Colorado, where he witnessed the bringing in of the estate's No. 5 Gramps for 2,000 bbls. a day.

H. A. MELAT, retired production superintendent for Gulf Oil Corporation, now living in Wichita Falls and McAllen, was a visitor in Fort Worth, Tex., last week. He is feeling and looking well and says the grapefruit crop on his Rio Grande orchard is fine.

SIDNEY LATHAM has accepted an appointment as counsel for the Texas Petroleum Council and has entered upon his duties. MR. LATHAM said the policies of the council had been revised and that its main function will be to cooperate with the state agencies and assist them in enforcement of proration laws. Mr. Latham's headquarters will be in Longview.

PARAGRAPHS

DON HYATT, geologist for the Carter Oil Company in the Fitts field, Pontotoc County, Oklahoma, with headquarters at Ada, was in Tulsa on a short business trip last week.

R. O. CAMPBELL, of the British-American Oil Refineries, Ltd., Toronto, Canada, has been appointed on the American Petroleum Institute's committee on testing methods and specifications. He replaces D. W. MONROE of the same company, who resigned from the committee.

B. L. BOYE of the Socony-Vacuum Oil Company was reelected president of the Asphalt Institute at the annual meeting of the board of directors. Other officers elected were J. A. BLOOD, Standard Oil Company of California, vice president; LEROY M. LAW, Shell Petroleum Corporation, vice president; T. M. MARTIN, Lion Oil Refining Co., vice president; A. M. MAXWELL, Standard Oil of Ohio, vice president; C. W. BAYLISS, Barber Asphalt Co., Chairman of Executive Committee; HERBERT SPENCER, Standard Oil of New Jersey, treasurer; J. J. GARTLAND, Texas Company, secretary. J. S. HELM, Standard Oil Company of New Jersey, succeeded W. W. McFARLAND of the Warner-Quinlan Co. as a member of the executive committee and J. E. PENNYBACKER continues as managing director of the institute.

E. G. GUY, Michigan refinery engineer, has returned after a two weeks' trip to Texas and Kansas. He was accompanied by MRS. GUY, MRS. GLENN HOBSON and her daughter, BONNIE JEAN.

J. W. STEELE has been appointed member of the Federal Tender Board No. 1 with headquarters at Kilgore, Tex. Mr. Steele was formerly with U. S. Geological Survey at Washington, D. C., and at Casper, Wyo.

ARTHUR T. DOREMUS, assistant secretary of the Socony-Vacuum Oil Company, Inc., retired on March 31, after having completed 40 years of service. He entered the employ of the old Standard Oil Company in 1896 and 1911 was elected assistant secretary of Standard Oil Company of New York. From 1911 until 1923 he served also as head of the company's stock transfer department. With the merger of the Standard Oil Company of New York and the Vacuum Oil Company in 1931, Mr. Doremus became assistant secretary of the present company.

WILLIAM A. KRAUS, consulting engineer, of Oklahoma City, Okla., has joined the Phillips Petroleum Company as proration engineer. He will have charge of all proration work with the Phillips Petroleum Company and will serve as technical advisor in oil and gas litigation. Mr. Kraus received his basic engineering training at Carnegie Institute of Technology at Pittsburgh, Pa., which city was his home. He attended the School of Mines, University of Pittsburgh for four years, receiving a degree in petroleum engineering. He was a member of the staff of Ralph E. Davis, consulting engineer, New York, from 1923 to 1929, during which time he assisted in the appraisal of oil and gas properties in 13 states. During the past five years he specialized in proration engineering work in the Mid-Continent area, and in the technical phases of oil and gas litigation.

W. G. ROWE of Toronto, Ontario, is on a three weeks business trip to California.

F. M. COTTON, assistant treasurer of the Argo Oil Company, was confined at his home in Denver, Colo., by illness.

W. S. HALL, in the scouting department of the Continental Oil Company, Fort Worth, Tex., has just returned to headquarters after a trip to Indianapolis, Ind.

ED J. HOLLAND, Texas representative for the Col. O. B. Ayres interests, has just completed a business trip to Texas. His headquarters are at New Castle, Ind.

MAEK MATHESON, independent oil operator of Muskogee, Okla., has moved his headquarters to Midland, Tex., to operate in the West Texas and New Mexico Permian Basin.

M. T. RATHVON, general superintendent of the Argo Oil Company, with headquarters at Casper, Wyo., was conferring with officers of the company in Denver, Colo., this week.

JACK WILLIFORD, member of the engineering department of the Texas Railroad Commission at Kilgore, has replaced R. L. MAREK, division petroleum engineer, who has resigned to go with the Stanolind Oil & Gas Company at Tulsa.

JOHN J. MITCHELL, vice president and treasurer of the Universal Oil Products Company, licensors of the Dubbs Cracking Process, accompanied by MRS. MITCHELL, arrived at Los Angeles Harbor last week aboard the Grace liner Santa Paula, having come from the East Coast by water. Mr. Mitchell is combining business with pleasure, as he will inspect the Wilshire Oil Company's new Dubbs unit recently installed at the company's Norwalk refinery.

Was the Whole Works

When the Amerada Petroleum Corporation was formed in 1919 its original field staff was made up as follows: Superintendent, W. G. Ricketts; farm boss, W. G. Ricketts; roustabout, W. G. Ricketts. Which is to say W. G. was the whole works. The Amerada (of course you know the name was made from the first two syllables of America and the last two of Canada) asked him to drill a well in the old Marsh pool at Cushing, Okla., a real good well, please. Mr. Ricketts gathered such help as was absolutely necessary and drilled a dry hole.

W. G. RICKETTS

The company refrained from censuring Mr. Ricketts for the absence of oil at that spot. Besides he soon demonstrated he knew how to drill producers too. As the Amerada grew his job grew also, and he now is general superintendent of production, with a multiplicity of things to look after.

Mr. Ricketts, who was born in 1885 on a farm near Montpelier, Ind., quit high school at 17 and got a job as roustabout with the Fort Wayne Oil and Gas Company. In 1913 he went to Oklahoma and started in as a roustabout at Drumright. Soon he was dressing tools. He was a farm boss for the Cosden Oil and Gas Company when the Amerada took him over.

In 1910 Mr. Ricketts married Miss Ada Thomas, of Montpelier. They have one daughter and reside in Tulsa. Mr. Ricketts enjoys fishing, knows where they are and how to catch them and doesn't have to lie about their size. He tries to get to all the football games and plays golf when it's necessary. He is a Mason and a Shriner.

E. P. ROWE of Toronto, Ontario, oil man, who has been ill for the past six weeks, is recovering.

R. H. CARR, chief engineer, Pure Oil Company, Chicago, Ill., is in Oklahoma visiting at the Tulsa office.

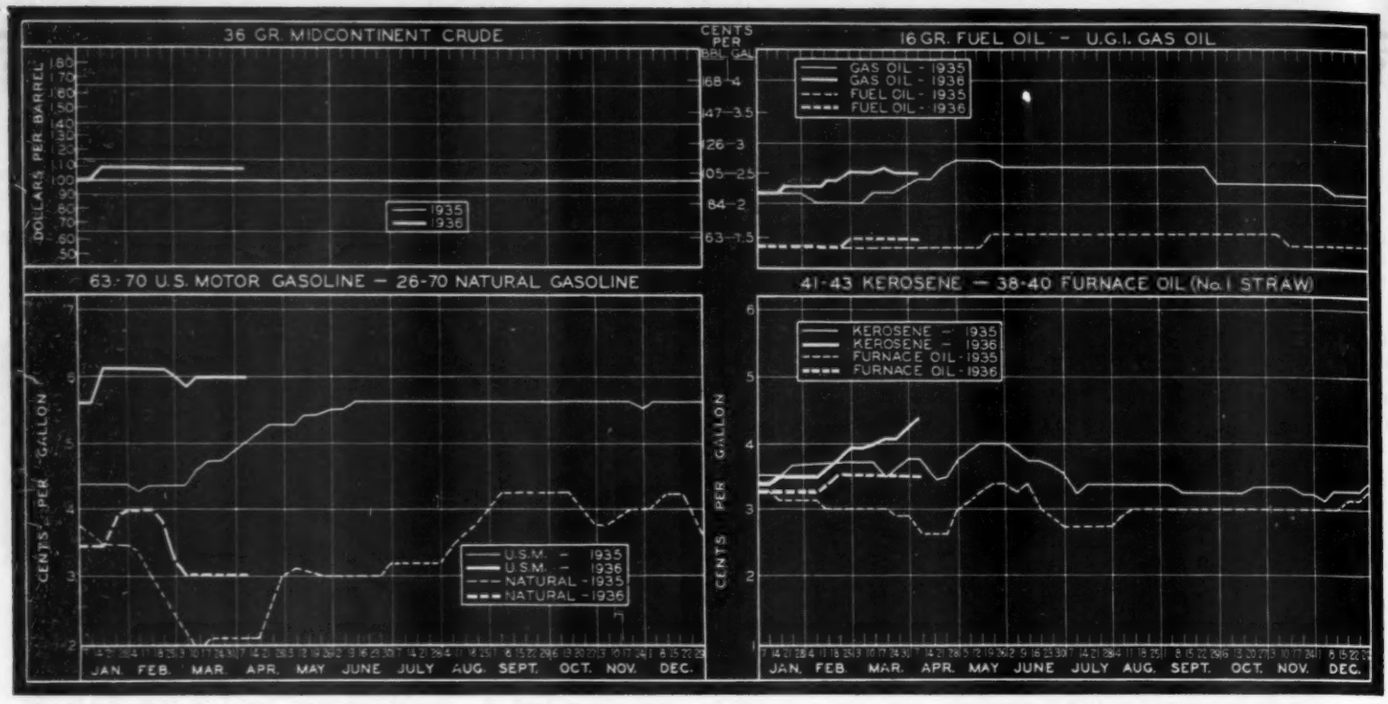
OTHO J. HOLDER is now associated with Francis, Bro. & Co., members of the New York Exchange, and will be located in their Tulsa office in the Kennedy Building.

W. H. CORREA, of the Standard Oil Company of New York and chairman of the Safety Committee of the American Petroleum Institute, has been spending the past several days in Los Angeles, from which point he will depart for San Francisco before returning to his office in New York.

L. J. YOUNG, consulting geologist, has been appointed Kansas division geologist for Mid-Continent Petroleum Corporation, with headquarters in Wichita. S. J. LEWIS has been named Kansas scout for the company. Both are former employes of Mid-Continent, which is expanding its operations in Kansas.

C. M. LAUGHLIN, JR., chairman of the board of Jones & Laughlin Steel Corporation, has announced his resignation, to take effect when the company's $35,000,000 financing plan is completed. H. E. LEWIS, now chairman of the executive committee of the Jeffrey Manufacturing Company of Columbus, Ohio, is expected to be his successor.

JOHN M. LOVEJOY, president of the Seaboard Oil Corporation of Delaware, will be the speaker at the mid-year banquet of the Independent Petroleum Association of America to be held during the International Petroleum Exposition, on Thursday evening, May 21, in Tulsa. Mr. Lovejoy is a member of the board of directors of the association.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1935
1936
CENTS PER BRL. GAL
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE — 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE — 38-40 FURNACE OIL (No.1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Group 3 Gasoline Market Is Trying to Keep Quiet and Avoid Excitement

By T. F. SMILEY

The Group 3 gasoline market apparently was trying to keep quiet and avoid excitement this week. Interest of refiners and marketers generally turned toward the Western Petroleum Refiners Association convention in Excelsior Springs, Mo., where subjects of active concern to the trade were under discussion.

If there was any change at all in the aspect of the gasoline market, it may have been in a slightly different attitude on the part of jobbers. In the closing days of March there was a disposition among them to shop around in an effort to pick up odd car lots at concessions from regular prices. It was slim picking. Since the first of April these jobbers have continued to keep an eye out for material in need of a home, but with noticeably less inclination to argue about price. It was pointed out by observers too that among the refiners there is not such readiness as formerly to accuse each other of cutting prices.

More Winter Weather

Recurrence of snowstorms and freezing weather over much of the Group 3 consuming area in the last week acted as a brake on the spring demand which had begun to make itself felt. Adding to confidence that the summer of 1936 will witness a vigorous gasoline market when it once gets under way are reports of active buying of new automobiles, and notwithstanding the fact that stocks of motor fuel are abnormally large, little uneasiness seems to be felt. Excess accumulations in the hands of the smaller independents are negligible. Large companies with their own retail outlets have been buying up and storing surplus output, not only with a view of helping to stabilize the market, but in the belief that gasoline at going prices was a good purchase from a business standpoint.

The hundreds of refiners and marketers from throughout the Group 3 territory who left early this week to attend the W.P.R. convention manifested greater enthusiasm than they had shown in years. They displayed cheerfulness over the outlook and gratification over what had been accomplished in the way of market stabilization in the last year. Hope was expressed that action might be taken looking to more definite specifications for gasoline. It was pointed out that the octane brackets now employed are unsatisfactory. Third-grade gasoline, for instance, is merely "below 63 octane." That might mean 62 octane and it might mean 42. Other objections to the present octane identifications are heard. Gum content and vapor tension are highly important, but there is no fixed standard. So loose are the specifications in various particulars that it is not difficult for the unscrupulous refiner to get rid of poor material at times. Committees on octane brackets and on specifications were to make reports at the convention, giving rise to the belief that remedies for existing conditions might be adopted.

Refined Oil Market Barometer

Notwithstanding wintry weather in various northern areas, with its adverse effect on gasoline consumption, increasing steadiness of tone was reported in the refined market generally. Regions which suffered from flood conditions have been recovering rapidly, and most of the main highways are open to travel again. Active demand for heating oils is continuing. The lubricant group is reported in good position.

MID-CONTINENT. Gasoline and naturals slow. Tractor fuels and kerosene vigorous.

EAST COAST. Motor fuel steady. Export lubricating oil market continues strong.

GULF COAST. General market firm. Prices unchanged.

PENNSYLVANIA. Bright stock strong. Neutrals steady. Gasoline needs better weather.

CALIFORNIA. Gasoline stronger and prices higher. Fuel oil firm.

CHICAGO. Gasoline steadier. Burning oils scarce. Lubricants firm.

Naturals Still Heavy

Natural gasoline was suffering from the same lethargy that has marked it for weeks. Following particular heaviness last week, some observers thought they detected a little more firmness in the natural market in both Oklahoma and Texas as the result of somewhat more generous buying by both jobbers and refiners. Nobody was so rash as to say better prices were in sight for the near future. On the contrary it was pretty generally agreed that the naturals would be doing well if they maintained their present price levels throughout the remainder of this seasonally dull period. Large quantities are going to storage, and so long as unneeded supplies can be disposed of that way there is believed to be little likelihood of natural gasoline being sold at the low prices which ruled a year ago.

Tractor fuels continued in strong demand, and they are likely to exhibit an even stronger tone as the plowing season, delayed by unfavorable weather in many areas, advances.

Kerosene was up, with some refiners unable to contribute anything to the spot market at all because of a sold-out condition.

The lubricant group was firm at present prices, with no complaints of price cutting. Wax was increasingly strong, with virtually no material available in the spot market, and prices were up.

Eastern Markets Retain Steady Tone; Flood Derangement Is Not Serious

NEW YORK, Apr. 6.—The eastern motor fuel market maintained a steady tone during the past week. Authorities who have made a careful study of the possible effects of recent floods on consumption in this territory have come to the conclusion that the general markets will not be adversely affected. They base this in part on results so far which show that losses in demand in the immediate flood districts have been offset by gains elsewhere in the East. The floods also caused some losses in inventories and a decline in refinery runs, which were reflected in a continued strong statistical position.

In other words, there is every indication that the flood situation as a potential factor in the gasoline situation is now definitely a thing of the past, with the markets in a normal condition and the trade ready to continue its function without having undergone any serious derangement. Gasoline and other refined products, with a few minor exceptions, continue to exhibit a firm trend in the eastern markets, although there are some local weak spots.

Motor fuel inventories are now definitely recording their seasonal downward course to a satisfactory degree. This is probably due in part to the exceptionally favorable weather which has prevailed during the past 10 days. The past two week-ends have been such as to encourage motoring and the present one holds equal promise. This always is an important factor in motor fuel consumption in this territory.

The gasoline situation in the Philadelphia-Camden district, wherein local price-cutting for gallonage had been prevalent for some time and was finally met by a 2-cent reduction in retail quotations, seems to have improved, with indications of a return to normal in the near future. In Brooklyn, N. Y., a large consuming territory comprising a large portion of the metropolitan New York district, the situation continues weak. This is a typical campaign for gallonage and apparently cannot be attributed to the sale of inferior goods or other irregular causes. Large and small elements in the business are reported to be among the participants in the competitive struggle, with the possibility of it spreading to the sole benefit of the consuming public. While some factors in the situation were reported to have discontinued the practice of giving fixed margins to dealers running as high as 5 cents per gallon, they are now said in certain instances to be giving a fixed guarantee of 1 cent more than the previous margin, thus aggravating the price situation still further.

The seriousness of price wars of this character is indicated by the fact that retail prices in these local hotbeds of competition are some 7 cents per gallon below prices existing in nearby normal markets and with this great differential there is always danger of the situation spreading out into new areas. As yet this has not occurred, however, and the trade does not believe that it will.

Kerosene and fuel oil markets are somewhat steadier at the new reduced price levels put into effect last week. The bunker fuel oil market was bolstered by the advance placed into effect at eastern Canadian ports on April 1, amounting to 10 cents per barrel, and bringing the price f.o.b. terminal at Halifax to $1.20 per barrel, at Montreal to $1.35 and at Quebec to $1.45. The quotation at New York, Baltimore and Norfolk remains at $1.05, and at Charleston, $1. The Gulf Coast price continues at 90 cents. Although price changes are ordinarily put into effect on Mondays in the American market, no advance is contemplated this coming Monday, but the outlook is good for a general boost in the American price in the near future, it is said in trade circles. Domestic heating oils alone among the fuel oils show a weak tendency.

Domestic lubricating oils have not been seriously affected by the flood, which temporarily dislocated deliveries in the Pennsylvania district. Reports from the district telling of the rapidity with which conditions are being restored to normal have reassured consumers, some of whom had been getting somewhat panicky. The demand for industrial lubes has eased off somewhat, reflecting seasonal decline in factory operations. Automobile production is running within striking distance of the year's peak rate, but is expected shortly to taper off during the summer. There is said to have been an unusually heavy demand for industrial greases in connection with rehabilitation work in the flood districts, which is still continuing.

Export Market

Recent developments in the petroleum situation in Europe, with the exception of Rumania, have been mainly of a cheerful nature. Rumania continues to undersell the American market, which has for same time created a stalemate in the Gulf Coast export situation. Gulf exporters are unwilling to meet Rumanian prices due to the improved domestic outlook with the strong degree of optimism prevalent in the American markets. Partially due to this, independent buyers in Europe are placing their orders for cargo shipments largely with Rumanian interests.

The Rumanian market gave temporary promise of improvement recently when a German delegation visited that country and placed substantial orders for Rumanian oil for export to Germany, but this business was not sufficient to maintain the improvement which it first engendered. Rumanian export gasoline is now quoted at the equivalent of slightly more than 4 cents per gallon in cargo lots, f.o.b. Constanza, while the American Gulf Coast export market is 5⅜ to 5½ cents per gallon; in addition, Rumanian shippers to Europe enjoy a slight advantage in transportation costs.

In Germany, oil interests are said to have been somewhat encouraged by reported plans under the leadership of Chancellor Hitler for the encouragement of the motor industry in that country, although what practical measures will actually follow remain to be seen. The chancellor is said to have expressed the belief that Germany could maintain between 3,000,000 and 4,000,000 motor vehicles, provided the price of gasoline could be brought within the means of the average citizen. The country now has less than 1,000,000 registered motor cars. Both French and Belgian statesmen are also reported to be taking cognizance of the influence of motor vehicles on their national prosperity.

It is even considered possible, in connection with this, that European statesmen are coming to realize that policies adopted toward the petroleum industry up to date have had a contrary influence. The construction of home refineries, for instance, which has been so strongly encouraged, or practically enforced, in many countries, has caused a duplication of facilities which has indirectly raised the cost of gasoline to consumers. Import duties and other measures have had a similar result. The remarkable thing is that consumption has continued to increase despite such handicaps.

The New York lubricating oil export market continues strong, with Pennsylvania steam cylinder stocks the feature. During the past week 600 flash was advanced another full cent per gallon to 20½-21 cents per gallon in barrels, f.a.s., New York. Neutrals continue rather weak, however, with 200-3 color reduced 1 cent to 26½-27 and 150-3 color one-half cent to 22½-23. Paraffin wax and petrolatums are unchanged.

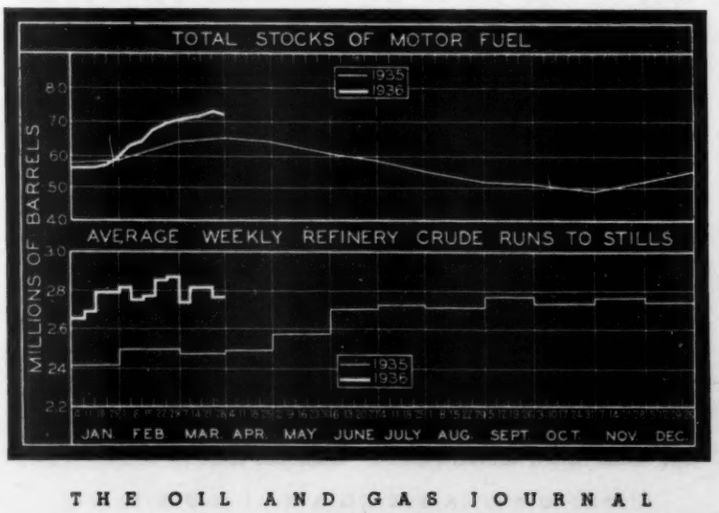
A. P. I. Weekly Refinery Statistics

Week ending March 28, 1936

(Figures for week ending April 4 not available, due to delay.)

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	500,000	18,956,000	6,248,000
Appalachian	94.8	76,000	2,915,000	530,000
Indiana, Illinois, Kentucky	95.9	355,000	11,902,000	2,794,000
Oklahoma, Kansas, Missouri	84.6	255,000	7,495,000	2,547,000
Inland Texas	48.5	91,000	1,876,000	1,429,000
Texas Gulf	96.8	587,000	9,035,000	6,638,000
Louisiana Gulf	96.4	122,000	1,927,000	2,131,000
North Louisiana and Arkansas	90.0	42,000	409,000	389,000
Rocky Mountains	61.9	44,000	1,595,000	696,000
California	92.6	499,000	13,337,000	70,974,000
Total reported	89.6	2,571,000	69,447,000	94,376,000
Estimated unreported	.....	194,000	3,565,000	1,633,000
*Estimated total	.....	2,765,000	73,012,000	96,009,000
*Estimated total previous week	.....	2,815,000	73,157,000	95,378,000
†March 31, 1935	.....	2,472,000	66,290,000	99,380,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of April 7, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Chicago	14.5	16.5	4.0	10.1
Decatur, Ill.	16.0	18.0	4.0	10.1
E. St. Louis	15.7	17.7	4.0	9.8
Joliet	16.0	16.5	4.0	10.1
Peoria	16.0	18.0	4.0	10.1
Quincy	15.8	17.8	4.0	9.9
Davenport, Ia.	16.0	(†)	4.0	10.1
Des Moines	15.8	(†)	4.0	9.9
Mason City	16.2	(†)	4.0	10.3
Sioux City	16.0	(†)	4.0	10.1
Duluth, Minn.	16.8	18.8	4.0	10.9
Mankato	16.4	18.4	4.0	10.5
Minneapolis	16.4	18.4	4.0	10.5
LaCrosse, Wis.	17.4	19.4	5.0	10.5
Green Bay	17.7	19.7	5.0	10.8
Milwaukee	16.3	18.3	5.0	10.4
Madison	17.4	19.4	5.0	10.5
Detroit, Mich.	14.0	16.0	4.0	8.3
Grand Rapids	16.4	18.4	4.0	9.3
Saginaw	16.6	18.6	4.0	9.6
Evansville, Ind.	17.7	19.7	5.0	10.6
Indianapolis	17.9	19.9	5.0	10.8
South Bend	18.1	20.1	5.0	11.0
Fargo, N. Dak.	17.4	19.4	4.0	11.5
Huron, S. Dak.	17.9	19.9	5.0	11.0
Sioux Falls	17.4	19.4	5.0	10.5
Kans. City, Mo.*	15.4	17.4	4.0	9.5
Springfield	15.1	17.1	4.0	9.2
St. Louis	15.7	17.7	4.0	9.8
St. Joseph*	15.4	17.4	4.0	9.5
Wichita, Kans.	14.9	16.9	4.0	7.1
Bartlesville, Ok.	17.0	19.0	5.0	8.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 2½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective February 10, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. 1 (36-40 it. stw. zero), less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons or more, 7.25 cents; No. 2. (22-26 zero), less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents; No. 4 (12-16 zero), less than 400 gallons, 7.5 cents; 400 gallons or more, 6.5 cents, viscosity of No. 4, 85° and 100° F.; No. 6, less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Denver, Colo.	17.0	19.0	5.0	11.0
Pueblo	17.0	19.0	5.0	13.0
Grand Junction	21.5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	22.0	....	6.0	14.5
Billings	22.5	24.5	6.0	14.5
Helena	22.5	24.5	6.0	14.5
Great Falls	22.5	24.5	6.0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	15.0
Boise	22.5	24.5	6.0	15.0
Albu'que, N. M.	21.0	23.0	*5.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.5
Augusta	20.0	22.0	7.0	*14.0
Macon	20.0	22.0	7.0	*14.5
Savannah	18.5	20.5	7.0	*12.0
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	20.0	22.0	8.0	10.0
Montgomery	22.0	24.0	9.0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21.5	7.0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	12.0
Miami	19.5	21.5	8.0	13.5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	19.0	21.0	6.0	11.0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	10.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	15.0	16.0	4.0	11.5
Los Angeles	14.5	15.5	4.0	9.0
Fresno, Calif.	15.5	16.5	4.0	11.0
Phoenix, Ariz.	19.0	20.0	6.0	‡16.0
Reno, Nev.	17.5	18.5	5.0	13.0
Portland, Ore.	17.5	18.5	6.0	13.5
Seattle, Wash.	17.5	18.5	6.0	13.5
Tacoma	17.5	18.5	6.0	13.5
Spokane	20.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4 cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	14.3	17.8	4.0	9.0
Newark	14.3	17.8	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	8.5
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	13.0	16.5	3.0	9.0
Danville, Va.	17.5	21.0	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W.Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19.5	5.0	12.2
Charlotte, N. C.	18.7	22.2	7.0	12.9
Hickory	19.0	22.5	7.0	13.1
Mt. Airy	19.0	22.5	7.0	13.2
Raleigh	18.4	21.9	7.0	12.7
Salisbury	18.8	22.3	7.0	13.0
Charleston, S. C.	17.0	20.5	7.0	11.3
Columbia	18.3	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	18.4	20.4	6.0	10.4
McCook	19.1	21.1	6.0	11.1
Norfolk	18.8	20.8	6.0	10.8
North Platte	19.2	21.2	6.0	11.2
Scottsbluff	19.9	21.9	6.0	11.9

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	17.0	19.0	5.0	9.5
Pittsburgh	17.5	17.5	5.0	10.0
Allentown	17.0	19.0	5.0	9.5
Erie	16.5	16.5	5.0	9.0
Scranton	16.75	16.0	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	17.0	5.0	10.0
Wilmington	16.5	16.5	5.0	9.5
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	13.5	17.0	4.0	7.75
New Haven	13.0	16.5	4.0	7.5
Provdence, R. I.	12.0	15.5	3.0	7.25

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
N. Orleans, La.	18.5	22.0	‡9.0	12.0
Baton Rouge	17.5	21.0	‡7.0	11.5
Alexandria	18.5	22.0	†‡8.0	11.0
Lafayette	19.0	22.5	†‡8.0	12.5
Lake Charles	19.0	22.5	†‡8.0	11.0
Shreveport	17.0	20.5	‡7.0	11.0
Knoxville, Tenn.	21.0	24.5	8.0	14.0
Memphis	19.0	22.5	8.0	9.5
Chattanooga	20.5	24.0	8.0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Post deal	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Albany, N. Y.	14.0	17.5	5.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	14.2	19.2	5.0	7.25
Staten Island	14.2	19.2	5.0	7.25
Qu'ns & Br'klyn	14.2	19.2	5.0	7.25
Buffalo	14.5	18.0	5.0	8.25
Rochester	14.5	18.0	5.0	8.25
Syracuse	14.5	18.0	5.0	8.75
Boston, Mass.	13.0	16.5	4.0	7.5
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	15.0	18.5	5.0	8.0
Burlington, Vt.	17.0	20.5	5.0	8.75
Hartford, Conn.	14.5	18.0	4.0	7.0

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.0	5.0	8.5
Fort Worth	13.5	17.0	5.0	8.5
Houston	13.5	17.0	5.0	8.5
San Antonio	13.5	17.0	5.0	8.5
El Paso	14.0	18.0	5.0	10.0
Muskogee, Ok.	15.0	19.0	5.0	8.0
Okla. City	14.0	17.0	5.0	8.0
Tulsa	15.0	19.0	5.0	8.0
Ft. Smith, Ark.	15.5	19.0	5.0	8.0
Little Rock	18.0	21.5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.5

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 3 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	17.5	19.5	5.0	*12.5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	30.8	32.7	7.0	23.3
Winnipeg, Man.	29.2	32.2	7.0	20 7
Regina, Sask.	30.5	32.5	7.0	23.0
Saskatoon, Sask.	23.3	26.3	7.0	24.3
Edmonton, Alta.	32.7	35.7	7.0	24 3
Calgary, Alta	30.0	33.0	7.0	21 5
Vancouver, B. C.	26.0	29.0	7.0	24 0
Montreal, Que.	19.5	22.0	8.0	17.5
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price, undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. of California, April 1 advanced tank-wagon and station gasoline 2.5 cents at all coastal points except Los Angeles where the advance was 2 cents.

Standard Oil Co. of Nebraska April 4 advanced tank-wagon kerosene .3 cent at all Nebraska points.

Magnolia Petroleum Co. March 31 reduced tank-wagon gasoline 1.5 cents and station gasoline 2 cents in San Antonio; April 6 reduced tank-wagon gasoline 1 cent and station gasoline 2 cents in Oklahoma City.

Rocky Mountain Runs

Production estimates for the week ended April 4, 1936, follows:

WYOMING

	Bbls.
Salt Creek	16,300
Big Muddy	1,550
Badger Basin	40
Byron	70
Dallas Derby	560
Dutton Creek	40
Elk Basin	630
Ferris	20
Frannie	1,650
Grass Creek	2,210
Hamilton Dome	690
Hudson	260
LaBarge	1,410
Lance Creek	3,670
Lost Soldier	1,420
Midway	50
Oregon Basin	1,910
Osage	600
Pilot Butte	20
Rock River	2,220
Poison Spider	90
Teapot	10
Total Wyoming	35,420

MONTANA

Buckley-Border	120
Cat Creek	710
Cut Bank	6,240
Dry Creek	1,650
Kevin-Sunburst	3,670
Lake Basin	50
Pondera	990
Total Montana	13,430

COLORADO

Florence	260
Fort Collins and Wellington	340
Iles Dome	3,610
Moffat	410
Orchard	40
Rangely	70
Tow Creek	180
Total Colorado	4,850

NEW MEXICO

Artesia	680
Cooper	8,270
Eunice	16,120
Hobbs	26,810
Hogback	200
Jal	3,290
Lea	890
Maljamar	1,780
Monument	4,920
Rattlesnake	730
Table Mesa	90
Total New Mexico	63,780
Total Rocky Mountain region	117,480

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of April 7, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
Below 63 octane	.05	.05¼
63-70 octane	.06	.06⅛
60-62 400 grade:		
Below 63 octane	.05	.05¼
63-70 octane	.06	.06⅛
64-66 375	.05⅛	.05⅜
68-70 360	.05¼	.05⅜

NORTH TEXAS—

U. S. Motor grades:		
Below 63 octane	.05	.05¼
63-70 octane	.06	.06⅛
60-62 400	.05	.05¼
64-66 375	.05¼	.05⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
Below 63 octane		.05⅜
63-70 octane	.06⅜	.06⅝
60-62 400	.05⅜	06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
Below 63 octane		.05⅜
63-70 octane	.06⅜	.06⅝

CHICAGO (based on Group 3)—

U. S. Motor grades:		
Below 63 octane	.05	.05¼
63-70 octane	.06	.06⅛
60-62 400	.05	.05¼
64-66 375	.05⅛	.05⅜
68-70 360	.05¼	.05½

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05⅝
60-64.9 octane		.07
65-70 octane		.07¼
64-66 375		.05⅝
68-70 350		.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.04¾	.06
58-60 400	.06¼	.07

EAST COAST—

U. S. Motor, below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06⅝
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia		.07
Boston		.07
Baltimore		.06⅝
Charleston, S. C.		.06¾
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia		.07¼
Boston		.07¼
Baltimore		.07
Charleston, S. C.		.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅝	.05⅝
60-64.9 octane		.06
65 octane and higher	.06⅛	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05½
52-54 450 (blending)	.05½
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03	.03⅛
Grade 18-55	.03¾	.04
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.04⅛	.04⅜
*12 lb. v.p. (max.)	.04¾	.05

*Nominal.

NORTH TEXAS—

Grade 26-70		.03
Grade 18-55	.03⅜	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70		.03⅜

CALIFORNIA—

75-85 375-390	.05	.05⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04⅛
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04⅜	.04½
42-44	.04½	.04⅝

NORTH TEXAS—

41-43	.04⅜	.04½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04⅜

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅜	.04⅝

PENNSYLVANIA (inland refineries)—

45	.05½
46	.05⅝
47	.05⅝

CHICAGO (based on Group 3)—

41-43	.04¼	.04½
42-44	.04½	.04⅝

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.04⅜

GULF COAST (domestic)—

41-43	.03⅜

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03¾
No. 2 straw, 32-36	.03⅜	.03½
No. 2 dark, 32-36	.03¼	.03⅜
No. 3, 28-32	.03⅛	.03¼
No. 3, 15 and above, 28-32	.02⅝	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03⅝
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅛	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03⅜
No. 3, 28-32	.03⅜	.03½

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅜	.03⅞
No. 1 straw, 38-40	.03½	.03¾
No. 2 straw, 32-36	.03⅜	.03⅝
No. 2 dark, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03⅜
No. 3, 15 and above, 28-32	.02⅝	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅜
*No. 2	.04½
*No. 4	.04¼

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28	.92½	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5	.70	.75
No. 6	.65	.70
Below 18 fuel oil, industrial	.62½	.67½

NORTH TEXAS—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28	.92½	1.00
No. 5	.70	.75
No. 6	.65	.70
Below 18 fuel oil, industrial	.62½	.67½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.03
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5, 18-22	.72½	.75
No. 6, 10-16	.62½	.67½

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04¾	.04⅞

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	1.05	1.20
27 plus diesel	1.05	1.25
27 plus diesel (bunkers)	1.20	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.80	.95
12-17 (tankcars)	.70	.95

San Joaquin Valley:

10-18 (tankcars)	.65	.75

San Francisco:

27 plus diesel, per bbl.		1.30
27 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.50
Bunker C (bulk cargoes)		.80
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼ plus per bbls.)		1.65
28-30 diesel (tankers)		.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.05
Industrial fuel (tankcars)		.04

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:

190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15¾

Steam refined:

630 green (treated)		.10½
600 light green (untreated)		.09
600 dark green (untreated)	.06½	.07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.22	.22½
15 pour test	.21	.21½
20 pour test	.20	.20½
25 pour test	.19	.19½

Steam refined:

600	.11	.11½
650	.12½	.13
600 Pennsylvania flash	.13½	.14
630 flash	.17½	.18
600 Warren E filtered	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:

150-3		.10
180-3		.11¼
180-4		.10⅝
200-3		.11⅝
200-4		.11¼
250-3		.13⅝
250-4		.13¼
280-3		.14⅝
280-4		.14¼
300-3½		.15¼
400-3½		.16
100-2 paraffin oil		.05⅝

15-20 Cold Test:

200-3		.10⅝
200-4		.10¼
240-3		.12⅝
240-4		.12¼
280-3		.13⅝
280-4		.13¼

GULF COAST—

Pale Oils:

200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10

Red Oils:

200-5-6	.07	.07¼
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:

100-2½-3	.06½	.06⅝
200-2½-3	.06⅝	.07
300-3-3½	.07	.07½
400-3-4	.09	.09½
450-3-4	.09⅝	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½

Red Oils:

200-4-5	.06½	.06⅝
300-5-6	.06⅝	.07
350-5-6	.07	.07½
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.08⅝
600-5-6½	.09	.09⅝
700-6½ plus	.09⅝	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 70° F., color, 400-405 flash:

Zero pour test	.18½	.19
10 pour test	.17½	.18
15 pour test	.17	.17½
25 pour test	.16	.16½
180 vis. at 70° F., 3 color:		
25 pour test	.19	.19⅜
200 vis. at 70° F., 3 color:		
Zero pour test	.22½	.23
10 pour test	.21½	.22
15 pour test	.21	.21½
25 pour test	.20	.20½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0255	.0260
124-126 (a.m.p.) w.c. scale	.0260	.0265

NEW YORK—

Wax in bags fully refined:

123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245

Petrolatum in barrels, carload lots:

Dark green		.01⅞
Amber	.02⅜	.02
Extra amber	.03	.02⅛
Lily white	.06⅝	.06⅜
Snow white	.07⅜	.07⅛
Cream	.05⅝	.05⅜

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅝	.05½
60-62 400		.05½
61-63 390		.05⅝
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¼
55-56 octane	.04¼	.04½
65-67 octane	.04½	.04¾
67-69 octane	.04¾	.05
Above 69 octane	.05	.05¼
65 and above 400 e.p.	.05¼	.05⅜

KEROSENE

GULF COAST—

41-43 prime white	.03⅞
41-43 water white	.04
44 water white	.04¼

LOS ANGELES—

41-43 water white	.04¼	.04⅜

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:

600 Warren E		.20½
600 S.R. unfiltered	.18½	.19
650 S.R., unfiltered	.19	.19½
600 flash S.R.	.20½	.21
630 flash S.R.	.23½	.24

Bright Stocks:

8 color		.26
6½ plus color in dilution		.25½

NEUTRAL OIL

200-3 color	.26½	.27
150-3 color	.23½	.23

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0240	.0250
124-126 y.s.	.0240	.0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Ilse, Colo., light*	$1.06
Ilse, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.23
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.28
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont.* (Jan. 23, 1936)	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 23, 1933)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.93
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.85
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont.	1.35
Cat Creek, Mont.	1.33
Cat Bank, Mont. (May 23, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 24°; Wellington 23°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .96
Mirando	.85
Pettus	1.35
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Jan. 14, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.33
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co. and Simrall Corp. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Ocsena posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$ .75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.13
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.43

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	1.43
Group B — Includes Titusville district.	1.41
Group C — Includes Turkey and Tidioute districts.	1.40
Group D — Includes Bear Creek and Porkey districts.	1.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jamesen, Kenerdell, Emienton, Tiona, Lacey and Kinzua districts. Price depends on lengths of pipe line haul to plant at Oil City.	1.36

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clear naphtha	2.70
Discolored naphtha	2.44
Crude oil, 50 gravity	2.23
Crude oil, 45 to 49.9	2.13
Crude oil, 40 to 44.9	1.56

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .82

*F.o.b. ship, based on February transactions and exclusive of production and export taxes and bar dues.

W. B. Lang, of the United States Geological Survey, addressed the West Texas Geological Society at Midland on April 4. His subject was "Stratigraphy of the Permian Rocks of Southwestern New Mexico."

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$ .92	....	$ .82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$ .86	....	....	$ .78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$ .84	$ .91	....	....	....	....	$ .75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$ .86	$ .81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA

Crude oil prices at the well effective March 7, 1936

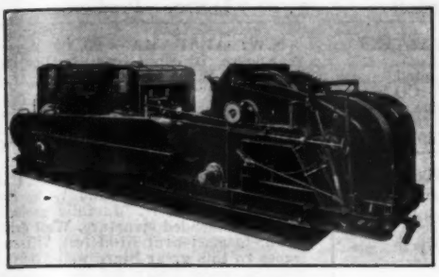
Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset except Lakeview Area	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .65	$ .70	$ .65	$ .70	$ .70	....	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.66	.74	.66	.74	.71	$ .70	....
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.68	.78	.68	.78	.72	.70	....
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.71	.82	.71	.82	.74	.70	....
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.74	.87	.74	.86	.78	.72	....
23-23.9	.95	.86	.77	.95	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.77	.92	.77	.90	.82	.76	....
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.80	.97	.80	.94	.86	.79	....
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.92	.83	....	1.02	.95	....	.89	.99	.86	.88	.83	1.01	.83	.98	.90	.83	....
26-26.9	1.06	1.06	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	.86	1.06	.86	1.02	....	....	....
27-27.9	1.10	1.06	.88	1.11	1.12	....	1.10	1.02	.88	....	....	1.02	....	.96	1.06	.95	.95	.88	1.10	.88	1.06	....	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	.91	1.15	.91	1.10	....	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.92	....	....	1.09	....	1.03	1.14	1.03	1.02	.94	1.20	.94	1.14	....	....	....
30-30.9	1.21	1.19	.96	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	.97	1.25	.97	1.18	....	....	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	.99	1.29	.99	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.02	1.34	1.02	....	....	....	$1.19
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.26	....	....	....	1.18	1.28	1.20	1.17	1.04	1.38	1.04	....	....	....	1.23
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	....	....	1.27
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.26	....	1.29	....	....	....	....	....	....	....	1.31
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	....	....	1.35
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	....	....	1.39
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	....	1.43
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River and Round Mountain 70 cents for all grades. Kern Front 70 cents for all grades.

NEW OR IMPROVED EQUIPMENT

Portable Drilling Machine Has Dual Motor Drive

Emsco portable 46-inch four or eight-speed rotary drilling machines are composed of seven separate units, combined to make a compact, efficient, easily transportable unit. The complete unit, without pumps, can be moved in two sections or to facilitate ease in transportation, the drilling machine, reverse clutch, two motors, countershaft and base, which is of two-unit construction, may



be removed and handled separately. By compounding the two motors, heavier drilling strings are handled and are kept in perfect control by the driller by the synchronized, trombone type throttle, mounted at the driller's standard position, the same type of throttles on the old type steam engine drive. A special connection is provided for operating motors independently. When drilling, one motor operates rotary machine through a reverse and friction clutch, and second motor operates pumps through a countershaft.

The frame or frames on which this unit is mounted are of two unit construction skid type, having 12-inch C B beams reinforced with cross members. The frame may be disconnected when only one motor and portable drawworks is required, as for drilling shallow wells or well servicing.

The Type G reverse and friction clutch with special twin disc clutch is used to transmit power from motors to drawworks. It is heavily constructed to withstand the strains and stresses during drilling and well servicing operations.

A special countershaft mounted on SKF bearings is installed between power units. This shaft is provided at both ends with special multiple jaw clutches and arranged that the power of either or both motors can be transmitted to the drawworks or slush pumps as required.

Here and There With Men Who Manufacture Equipment

The Parkersburg Rig & Reel Co., Parkersburg, W. Va., has appointed the Harvey Tank & Equipment Co., Cut Bank, Mont., distributor of Parkersburg bolted tanks in the Colorado, Wyoming and Montana territory.

Arthur D. Little, Inc., chemists and engineers, Cambridge, Mass., have made Thorne L. Wheeler a vice president. Mr. Wheeler graduated from Yale in 1909 and from Massachusetts Institute of Technology in 1911.

Shull Perforating Co., Long Beach, Calif., has opened a branch headquarters at Highway 99 and Twenty-third Street, Bakersfield, Calif., in charge of Ed N. Halfen and carrying a complete line of Shull production tools.

The S. M. Jones Co., Tulsa, has opened a division office in the Sterling Building, Houston, Tex. L. J. Pundt, division manager, is in charge and C. E. Buchner, Jr., is sales engineer. The office is equipped to give information on sucker-rods and pumping conditions affecting sucker-rod life.

Industrial Supply Co., Wichita Falls, Tex., has opened a store at Freer, Tex., with a complete line of oilfield supplies and equipment. Roy Clifton is manager.

The main office and manufacturing plant of the Miller Sand Pump Co. is now located at 1520-24 S.E. Twenty-ninth Street, Oklahoma City, Okla. The Sapulpa plant, former headquarters of the company, will be maintained as a branch.

Men Widely Known in the Equipment Field

B. W. Vinson, president, announces the name of his company has been changed from B. W. Vinson Co. to Vinson Supply Co. He says the change was made by customers rather than by himself and that it really is little more than official confirmation of something already done. Mr. Vinson,

B. W. VINSON

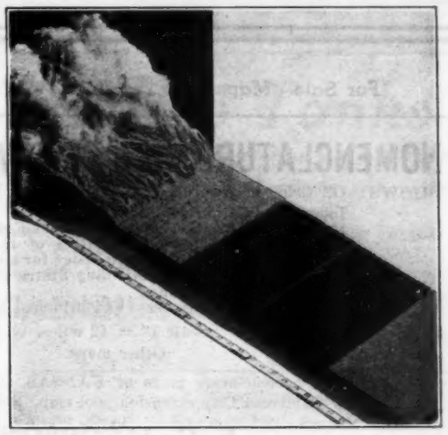
a graduate of the mechanical and engineering school of Oklahoma University, has been in the refinery supply business in Tulsa since 1922. He is a charter member and past president of the Natural Gasoline Supply Men's Association.

Make License Agreement

Hercules Motors Corp. of Canton, Ohio, has made a license agreement with Ruston & Hornsby, Ltd., of Lincoln, England, manufacturers of heavy-duty diesel engines. Ruston & Hornsby, Ltd., will build in England the Hercules line of lightweight, high-speed compression ignition engines (diesels), employing the Hercules patented combustion system and following closely the general design of the Hercules diesel engines.

Gatke Deep-Well Brake Lining Is Made for Hard Service

An improved woven brake lining announced by the Gatke Corp., is designed especially for severe conditions to afford safer handling of excessive loads and eliminate brake flange wear. The man-



ufacturers say the highest-grade asbestos spinning fiber is used in Deep-Well Woven, from which every particle of abrasive rock dust has been removed by a special process. To provide additional protection against scoring, zinc alloy wire is combined with the abrasiveless asbestos fiber. Big looms, built especially for the purpose, are used to weave the material into a unified mass with no layers to strip or peel.

This tightly woven material is thoroughly saturated with a special high-heat-resisting frictional compound of infusible resins. The combination of asbestos spinning fiber, zinc alloy wire and this special frictional compound affords unusual tenacity yet uniform and smooth release under all operating conditions.

Baking, calendering, and hydraulically compressing form the material into a dense, compact structure which is impervious to oils, water and grease, has long wearing qualities, and is sufficiently flexible to conform with various brake flange diameters.

This new type woven brake lining is made in all sizes up to 14 inches wide and 1¼ inches thick.

New Model 9-Inch "Workshop" Lathe

The South Bend Lathe Works, South Bend, Ind., announces that its new model 9-inch "Workshop" lathe is now available in the underneath belt motor drive. The lathe is mounted on either a frame or cabinet bench. The underneath motor drive unit and motor are supported on a pivoting frame to the underside of the bench top.

Conditioning Marmon-Herrington

Marmon-Herrington truck being conditioned in Tulsa en route to Ponca City, Okla., where Dan Leroy Dresser will open a service station to handle the sale and servicing of trucks in Oklahoma, Kansas and Texas.

Maintenance Trouble Reduced by New Packless Float-Box

Development of a packless float-box construction is announced by the Davis Regulator Co. of Chicago. It is designed primarily for the oil and chemical industries where highly volatile fluids are handled, but it offers protection against leakage and maintenance nuisance wherever water or other liquids are stored under pressure.

Elimination of packing is accomplished by a flexible diaphragm-ball joint construction which forms a positive, fixed seal. The problem of securing a suitable diaphragm material impervious to the action of chemicals, heat and pressure was solved by the utilization of Duprene, Dupont's new synthetic rubber.

This construction has been made available in all of the Davis' types of specially designed float-boxes for valve, switch, signal or indicator operating purposes. Besides being permanently leakless, this construction minimizes friction. Pressure thrust is carried by ball-joint, the out-board side of which is lubricated with long-life graphite grease. As there is practically no limit as to the size and strength to which these parts can be built, it will also offer new possibilities for high-pressure installations.

Directors of the Blackmer Rotary Pump Co., Grand Rapids, Mich., have elected Albert B. Hoffman president and general manager.

CLASSIFIED ADVERTISING

For Sale—Maps

NOMENCLATURE MAP OF STATE OF TEXAS

SHOWS: Oil fields in green and gas fields in red, hand-colored.
Index for locating counties.
Index giving location of each field and official name as designated by The Nomenclature Committees of the Geological Societies in Texas. Space has been left in Index for addition of new field names.
Active oil areas in the adjoining States of New Mexico, Oklahoma, Arkansas and Louisiana.
Cities, towns, county seats and principal streams.

SIZE: 53" x 69". Scale 1" = 12 miles.
Other maps.

Official nomenclature maps of KANSAS and OKLAHOMA.
New Oklahoma City extension pool map. Scale 1" = 4 miles.

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OIL Production, Royalties, Leases, Land and estimating their values, has been my work for the past 30 years, with headquarters here, but covering parts of Oklahoma and New Mexico, States of many opportunities. I offer my services and experience to investors in these lines. E. B. Reeves, Box 13, Alanreed, Gray County, Texas, or Box 475, McLean, Texas.

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Inquiries invited from Oil Companies, Bankers, Dealers.
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ROYALTY BUYERS. S. W. Pressey purchased at receivers sale the great Starr well on Vegas Dome and is drilling to completion. This deep test highly recommended. Now drilling Pennsylvania at 5100 with good gas and oil showings. The greatest bet in New Mexico. I have optioned 2000 acres adjoining the well and all structural. Can sell this tract with its ⅛ Royalty very low. Here is a real proposition as the land alone worth the money. Wm. H. Springer, Las Vegas, New Mexico.

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HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

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Bought—Sold.
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67 Wall St., Suite 1510, New York City.

Leases—Production

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

PROPOSALS invited — For oil lease and drilling contract on 3407 acres favorably located in Houston County. Solid. Good titles. Quick delivery.
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Crockett, Texas.

CONSIDER drilling proven acreage of merit, Kans., Okla. or Tex. on interest basis. Submit full details first letter. Box 5005, Shawnee, Oklahoma.

MEXICO—GOLD-SILVER-MINING-PROPERTY. 257 acres in one of the richest mining districts of Mexico, surrounded by large gold and silver producers. Owner sells 35% for $100,000 to install a 25 ton mill and other expenses. Will agree to pay money back out of first profits and you keep the 35% ownership. Report sent to persons who can qualify. P. O. Box 268, Las Vegas, New Mexico.

12,500 acres ⅞ths 88 leases Noxubee County, MISS. Woodbine sand 2200-2500 ft. 6c acre and 1/64th roy. 5 mos. free, 25c rentals. Operators only. Box 303, Memphis, Tennessee.

LEASES and Royalties for sale. Rodessa, Sligo and Bethany area. Also have choice North Louisiana drilling block where opportunity is ripe. A. D. King, with Bi-State Oil Co., Inc., 538 Ricou-Brewster Building, Shreveport, Louisiana.

Leases—Production

N.W. ALABAMA — 26,000 Acre 10 year lease. 10 cents acre. Smaller tracts 25 cents. W. A. Feild, 321 W. 16 St., Little Rock, Arkansas.

NEW MEXICO Oil and Gas Leases and Royalties. Also inquiries and listings wanted. F. R. WARN, Santa Fe, New Mexico.

BROKERS AND SALESMEN. I have bought the Starr Well and Vegas Dome near Las Vegas, N. M., fully geologised and recommended structure. Well drilling Penn. formation at 5100 feet. Offsetting leases to this great Starr well afford the greatest opportunity for oil speculation in New Mexico. Will sell at low prices. Address S. W. Pressey, Pueblo, Colo.

YOAKUM Co., Texas, 1280 acres, Sec. 596 and 597. Will lease all or part. Submit offer to owner, Dr. J. A. Robinson, Fort Harrison, Montana.

FOR SALE, OIL AND MINERAL RIGHTS, under lands in Eastern Colorado, leased in solid blocks, largely by major companies; taken after seismic surveys and core drillings. Titles clear. Get ready for the next big oil play. Warren Shamburg, Burlington, Colorado.

For some reliable Independent Operator that would like to make a "killing," I have an exceptional proposition on practically proven acreage. Will bear the closest investigation. Southwest Texas. Principals, no Brokers. Address Box H-224, The Oil and Gas Journal, 809 Sterling Bldg., Houston, Tex.

FOR SALE—Commercial and drilling blks. in Western Kans. No rentals for two years. Box 24, Dodge City, Kans.

WILL give 10 yr. oil lease on 24,000 acre block, splendid location, North Texas panhandle for test well. Address Box 55, Dumas, Texas.

WANTED—Party to drill Lease adjacent production Burrton Field, Kansas, on percentage base, will pay Premium for first production. Also drill well defined structure, Wyoming. Majors all around. I need Crude. F. B. Renfrow, Canon City, Colorado.

Cheap Landowner Leases Near Drilling Blocks. Very active, prices advancing. New Talco Field. E. M. Adams, Clarksville, Texas.

SAN JUAN Basin, New Mexico, Offering 320 acres top of structure including Midwest Discovery well, high gravity oil 1,000 feet; wonderful deal for developer or promoter.
Roy G. Barton, Box 191, Clovis, N. Mex.

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We will erect latest type 55,000 bbl. all steel storage tanks at a great saving. Over 500 tanks on hands from 500 bbls. to 80,000 bbls.
Four 55,000 bbl. all steel tanks near Seminole, Oklahoma, for rent, we own ground and pipe connections.

We can furnish any quantity of steel tank sheets from ⅛-inch to ½-inch inclusive in carload lots at bargain prices.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION

64 North Second Street Kansas City, Kansas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
28 West 2nd St. Cincinnati, Ohio.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa.

FOR SALE — Three portable Southwestern absorption gasoline plants complete. Globe Gasoline Company, Blackwell, Oklahoma.

TWO—300 amp. Lincoln Engine driven welders. A-1 condition. Stationary type. Service Co., 3732 Cedar. Cleveland, Ohio.

WILL TRADE use of Slater Rig for interest or acreage in Seminole area. Address Box H-223, The Oil and Gas Journal, Tulsa, Oklahoma.

Wanted

WANTED—Financial participation for erection of small new refinery. Equip. cos. particularly invited. Address Box H-123, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

WANTED—Single man experienced in physical inventory and stock records, both rotary and cable tool oil field supplies, with knowledge of auditing. State age, experience for past five years, present or last employer and references. Address Box H-211, The Oil and Gas Journal, Tulsa, Oklahoma.

Engineer Wanted

Engineer experienced in designing oil field drilling equipment. Good opportunity for competent man. Give full particulars of experience and education which will be considered strictly confidential. The men in our Company are acquainted with this advertisement. Address Box H-221, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED — Oil field machine shop foreman, must have both rotary and cable tool experience. State age, married or single, name of present or last employer and references. Address Box H-112, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

PETROLEUM Engineer and Executive Manager, now employed, desires change to position of responsibility. Fully qualified design process equipment, handle engineering, erection and operation. Wide acquaintence and broad experience in industry with background chemical engineering training, ten years plant management and eight years design, sales, construction and operation process plants. Can produce results efficiently and economically. Address Box H-202, The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT — Graduate chemical engineer, 9 years experience design, construction, operation of cracking, skimming, road oil, asphalt, treating, vapor recovery plants. References. Address Box H-193, The Oil and Gas Journal, Tulsa. Oklahoma.

Manufacturers' Representative, well acquainted in Mid-Continent area, wants side line. Straight commission proposition only. Address Box H-116, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

GEOLOGIST — 7 years major company experience, surface and sub-surface, desires connection either straight salary or interest and expense basis. Best references. Address Box H-220, The Oil and Gas Journal, Tulsa, Oklahoma.

Refinery Superintendent, 20 years experience Producing and Refining in Mid-Continent, 5 years experimental work cracking and Vacuum Processes. Gillespie, 305 W. 37 St., Kansas City, Missouri.

For Sale—Maps

MAP OF NEW TALCO FIELD, Titus and Franklin Counties, Texas. All West Texas Counties. Send $1.00 for Oil Map of Texas and Eastern New Mexico.
ZINGERY OIL MAP CO.
Fair Bldg. Ft. Worth, Tex.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

For Sale or Lease

Downtown service station, excellent main highway location in Hibbing, Minnesota. Fully equipped including two storage tanks and warehouse.

WERLING OIL COMPANY
Hibbing, Minnesota

HAVE rich gold mine in South America with plenty good ore. Want to meet party able to finance equipment. $30000 required. No triflers. Address Box H-117, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR PLANT EXPANSION a growing, producing Business Concern will sell participating interest for $30,000 upward, excellent terms. Write S. Gingerich, Springdale, Arkansas.

Experienced refinery man needs capital for purchase of proven production for small cracking plant, deal will stand strict investigation, no stock selling. Address Box H-222, The Oil and Gas Journal, Tulsa, Oklahoma.

Offer Quarter interest large gold mine, Dumont, Colo. $10,000. Investigate. H. C. Petersen, Route 5, Omaha, Nebraska.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada.
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Financing

JAMES E. MILLER, 604 W. Seventh St., Tulsa, Okla., will aid in financial marketing problems. Fee basis.

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis. John Morris, Box 5411, Philadelphia, Pa.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

CLASSIFIED RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.25*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

INDEX TO ADVERTISERS

A

Abercrombie, J. S., Co.
Abercrombie Pump Co.
Air-Maze Corporation
Air Reduction Sales Co.
Aldrich Pump Co., The
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
Allsteel Products Mfg. Co., The
American Askania Corp.
American Cable Company, Inc.
American Hammered Piston Ring Company
American Iron & Machine Works.. Back Cover
American Lubricator Co.
American Manganese Steel Company
American Meter Co.
American Roller Bearing Company.
American Sand-Banum Co., Inc.
American Sheet & Tin Plate Company 44
American Steel & Wire Company
Arrowhead Iron Works
Atlas Imperial Diesel Engine Co.
Auer, C. L., and W W.

B

Babcock & Wilcox Tubes
Bakelite Corporation
Baker Oil Tools, Inc. 55
Barber-Greene
Barold Sales Co.
Barret, William M., Inc. 71
Barrett Company, The
Beaumont Iron Works Co.
Bethlehem Steel Co. 1
Black, Sivalls & Bryson, Inc.
Boston Woven Hose & Rubber Company
Bovaird Supply Co., The
Bowen, S. R., Co. 55
Bradford Motor Works, Inc.
Brewster Company, Inc., The
Bridgeport Machine Co.
Broderick & Bascom Rope Co. 2
Brown Instrument Co., The
Buck Stoddard, Inc.
Buckeye Traction Ditcher Co., The
Buda Co., The
Byron Jackson Co.

C

Cameron Iron Works, Inc. 42
Carson Machine & Supply Co.
Cast Iron Pipe Research Association, The
Caterpillar Tractor Co.
Chain Belt Co.
Chaplin-Fulton Mfg. Co., The 70
Chapman Valve Mfg. Co., The
Chemical Process Co., Inc., The
Chevrolet Motor Company
Chicago Bridge & Iron Works
Chilkaan Oil Tool Co., Ltd.
Cities Service Oil Co.
Clark Bros. Co.
Classified Advertising 94-95
Cleveland Trencher Company, The
Climax Molybdenum Company
Coffing Hoist Co.
Columbian Steel Tank Company
Combustion Engineering Company, Inc.
Continental Oil Co.
Continental Supply Co. 47
Cooper-Bessemer Corp., The
Coppus Engineering Corp.
Crane Co.
Crosby Steam Gage & Valve Co. 50
Crutcher-Rolfs-Cummings
Cummins Engine Company
Curtin, W. H., and Co., Inc.

D

D. & B. Pump Co.
Darling Valve & Mfg. Co.
Dart, E. M., Mfg. Co.
Davis Regulator Co.
Dean Core Barrel Manufacturing Sales and Service
Dearborn Chemical Company
Devine, J. P., Mfg. Co., Inc.
Diamond Chain & Mfg. Co.
Dodge Mfg. Co.
Doheny Stone Drill Co.
Dowell Incorporated
Dresser, S. R., Mfg. Co.
DuPont DeNemours & Co., Inc., E. I.

E

Eagle-Picher Lead Co.
Eastman Oilwell Survey Company
Economy Electric Lantern Co. 70
Edward Valve & Mfg. Co., Inc., The
Emsco Asbestos Co.
Emsco Derrick & Equipment Co.
Ethyl Gasoline Corporation
Everstick Anchor Co.

F

Failing Supply Co., Geo. E.
Filtrol Co. of California
Firestone Tire & Rubber Co.
First National Bank & Trust Co. of Tulsa, The
Fisher Governor Co.
Fluor Corporation, Ltd.
Foote Bros. Gear and Machine Co.
Ford Motor Co.
Fort Worth National Bank
Four Wheel Drive Auto Co., The
Foxboro Co., The 4-5
Francis, Bro. & Co. 71
Frick-Reid Supply Corporation

G

Gardner-Denver Company
Garlock Packing Co., The
Gaso Pump & Burner Mfg. Co.
Gasoline Products Co., The 35
Gates Rubber Co., The
Gatke Corporation
General American Tank Storage and Terminal Co., Inc.
General Electric Company
General Motors Truck Co.
General Paint Co.
Globe Oil Tools
Gott, H. P., Mfg. Co.
Grant Oil Tool Co.
Gray Processes Corporation, The
Great Lakes Fuel Corporation 71
(Distributors for Great Lakes Coal & Coke Co.)
Green Head Bit & Supply Co.
Gulberson Corp., The
Gulf Refining Co.

H

Halliburton Oil Well Cementing Co. Inside Front Cover
Hanlon-Buchanan, Inc. 10
Happy Belting Company
Harrisburg Steel Corporation
Hazard Wire Rope Company
Heeter, C. M., Sons Co.
Hercules Tool Company
Hewitt Rubber Corp.
Hills-McCanna Co.
Hoard Exploration Co.
Hobart Bros. Co.
Hough Mfg. Co., The Charles N.
Houston Oil Field Material Co., Inc.
Hughes Tool Co. Front Cover
Humble Oil & Refining Co.
Hyatt Roller Bearing Co.
Hydril Co.

I

Independent Exploration Company
Ingersoll-Rand Co.
International Derrick & Equipment Co., The
International Harvester Co. of America, Inc.
International Nickel Company, Inc., The
International Petroleum Exposition

J

Jarecki Manufacturing Co.
Jensen Brothers Manufacturing Co.
Jerguson Gage & Valve Co.
Johns-Manville Corporation
Johnston & Jennings Co. (Ocoeo Division)
Jones & Laughlin Steel Corp.

K

Kellogg, M. W., The
Kennedy Valve Mfg. Co., The 67
Kerotest Manufacturing Co.
Key Company
Keystone Driller Co.
Kibele Manufacturing Co.
Krupp Fried

L

Lacy Oil Tool Co.
Landis Machine Co., Inc.
Lane-Wells Co., The
Larkin Packer Co.
Layne and Bowler Co.
Leach Co., C. H., Inc.
Leonard Construction Co.
Leschen, A., & Sons Rope Co.
Lewis, M. J., Oil Well Service
Lincoln Electric Co., The
Linde Air Products Co., The
Linear Packing & Rubber Co., Inc.
Link Belt Company 66
Lucey Products Corp.
Ludlow Valve Mfg. Co., The
Lufkin Foundry & Machine Co.
Lufkin Rule Co., The 71
Lummus Co., The
Lunkenheimer Co., The

Mc

McClintic-Marshall Corp.
McCord Radiator & Mfg. Co.
McEvoy, J. H., & Co.
McGregor Working Barrel Company

M

MacClatchie Mfg. Co.
Macwhyte Co.
Maloney Tank Mfg. Co.
Manhattan Rubber Mfg. Division, The
Marmon-Herrington Co., Inc.
Martin-Decker Corp.
Mason-Neilan Regulator Co.
Medart Company, The
Mepham, Geo. S., Corp.
Merco Nordstrom Valve Co.
Midco Tool & Supply Co. 42
Midwest Piping & Supply Company, Inc., The
Miller Sand Pump Co.
Mission Mfg. Co.
Monsanto Chemical Co.
Moore, Lee C., & Co., Inc.
Mooriane Company
Muskogee Iron Works

N

National Bank of Tulsa
National Carbon Company, Inc.
National Lead Co. 8
National Supply Co., The 37
National Tank Co.
National Transit Pump & Machine Co.
National Tube Co.
Naylor Pipe Company
New Deal Specialty Co.
Northrup Equipment Company
Norvell-Wilder Supply Co. 55
Nugent, Wm. W., & Co., Inc., Mfgrs.

O

O'Bannon Co., Walter
Oceco Fittings
Oil Center Tool Co.
Oil Well Supply Co.
Owens-Illinois Glass Company
Oxweld Acetylene Co.

P

Page Steel & Wire Division of The American Chain Company, Inc.
Parkersburg Rig & Reel Co., The
Parsons Co., The Ralph M. 49
Patterson-Ballagh Corporation
Penberthy Injector Co. 27
Pennsylvania Grade Crude Oil Association 6
Petroleum Electric Power Club
Petroleum Iron Works
Petroleum Specialty Company, The
Petty Geophysical Engineering Co.
Phoenix Chemical Laboratory
Pittsburgh-Des Moines Steel Company
Pittsburgh Equitable Meter
Pittsburgh Steel Company
Polymerization Process Corporation, The
Portable Rig Company, Inc.
Prest-O-Lite Co.
Pure Oil Co.

R

Ratigan, J. P. 55
Reading, Pratt & Cady
Rector Well Equipment Co., Inc.
Reed Roller Bit Co.
Regan Forge
Reid, Jos., Gas Engine Company
Republic Rubber Co., The
Republic Steel Corporation
Roebling's, John A., Sons Co.
Ryerson & Sons, Inc., Joseph T. 8

S

Sauter, FR., S.A.
Security Engineering Co.
Shaffer Specialty Co., The
Shaffer Tool Works
Shand & Jurs Co.
Sharples Specialty Co., Inc.
Shell 63
Shull Perforating Company
Sinclair Refining Company, Inc.
Skinner Co., M. B.
Smith, A. O., Corporation
Smith Company, E. M.
Smith Mid-Continent Geophysical Seismographing Service, The
Smith, Nowery J.
Smooth-On Mfg. Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Spang and Company
Sperry-Sun Well Surveying Co.
Square D Company, Inc.
Star Drilling Machine Company
Star Manufacturing Company
Stork Engineering Company
Staynew Filter Corp.

T

Taylor Forge & Pipe Works
Taylor Instrument Companies 59
Thermoid Rubber Co., The
Thornhill-Craver Co., Inc.
Timken Roller Bearing Co. 41
Timken Steel & Tube Co.
Titusville Iron Works Co., The
Tnemec Company, Inc.
Toledo Pipe Threading Machine Co. 54
Tretolite Co.
Tube Turns, Inc.
Tulsa Chamber of Commerce
Tulsa Winch Mfg. Co.
T.V.P. Corporation, The

U

Union Carbide & Carbon Co.
Union Carbide Sales Co.
Union Wire Rope Corp.
United American Bosch Corp.
United States Rubber Company
U. S. Steel Corp., Subsidiaries 44
Universal Oil Products Co. 31

V

Vellumoid Co., The
Vernon Tool Co., Ltd.
Vinson Supply Co.
Vogt, Henry, Machine Co.
Vortox Manufacturing Company

W

Wall Rope Works, Inc. 55
Walworth Co.
Warren Petroleum Co.
Waukesha Motor Company
Westinghouse Electric & Mfg. Co.
Wheeling Machine Products Co.
Wickwire Spencer Steel Company 39
Williams & Co., J. H.
Williamsport Wire Rope Co. 7
Wilson Manufacturing Co.
W. K. M. Co.
Worthington Pump & Machinery Corp.

Y

Yale & Towne Mfg. Co., The
Young Engine Corp.
Youngstown Sheet & Tube Co., The Inside Back Cover

Oil Man's Calendar

April

11-13—Tulsa, Petroleum Industry Electrical Association.

13-17—Kansas City, Mo., American Chemical Society, Petroleum Division, Symposium on Motor Fuels.

14—Los Angeles, Calif., A.P.I., Division of Production, spring meeting.

14-18—Detroit, Mich., Oil Burner Institute.

16-18—Cleveland, Ohio, National Petroleum Association, semiannual meeting, Cleveland, Hotel.

20-25—Houston, Tex., Oil Equipment and Engineering Exposition.

21-22-23—Norman, Okla., Southwestern Gas Measurement Short Course.

May

5-8—Dallas, Tex., A.G.A. Natural Gas Department, Baker and Adolphus Hotels.

13-15—Tulsa, midyear meeting, American Petroleum Institute, Mayo Hotel.

13-15—Tulsa, Natural Gasoline Association of America, fifteenth annual convention, Hotel Tulsa.

15—Tulsa, Institution of Petroleum Technologists, American Meeting, Mayo Hotel.

16-23—Tulsa, International Petroleum Exposition and Congress.

21—Tulsa, Independent Petroleum Association of America, midyear meeting.

22—Tulsa, National Stripper Well Association.

25-27—New York, A.G.A. Production and Chemical Conference.

25-28—New Orleans, La., National Association of Purchasing Agents Convention.

June

17-20—Dallas, Tex., American Society of Mechanical Engineers.

18-19—State College, Pa., Pennsylvania Grade Crude Oil Association, thirteenth annual meeting.

November

9-12—Chicago, American Petroleum Institute seventeenth annual meeting.